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Knowledge, Attitudes and Practices of Physical Therapists Regarding the Evidence-Based Practice in Gaza Governorates

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Dedication

To the safe circle that I always refer to, my family

To those whom gave me strength and resolve, my friends

To those whom contributed to my success from childhood until now, my teachers

To all physical therapists

I am dedicating this study to all of you

Yasser Mohammad Zeedia

Declaration

I certify that this thesis submitted for the degree of master is the sole results of my own research, except where otherwise acknowledged, and that this thesis or any of its parts has not been submitted for higher degree to any other university or institution.

Signed

Yasser M. Zeedia

Date: 16/8/2018

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Yasser Zeedia

Abstract

Evidence based physical therapy is a growing competency among physical therapists all over the world. It enables the therapist to provide best care based onresearch evidence, therapists experience and patient preferences. However,there is noticeabledearth of information onlevel of this competencyamong physical therapists in Gaza strip.

This study aimed at exploring the level of knowledge, attitudes and practices among physical therapists regarding evidence based physical therapy in Gaza strip, in addition to evaluatewhether there is an association between those three factors and selected demographic characteristics such as age of therapist, years of physical therapy experience, work location and many other variables. For that purpose, the researcher used a self-administered questionnaire and semi-structured interview protocol as main data collection tools, where 244 of physical therapists had completed the questionnaire by response rate of 97.6%, while a head of one physical therapy department at physical therapy entry level program has been interviewed. Nevertheless, Cronbach's alpha readings were high for statements of questionnaire at both pilot sampling stage and full sample.

The study results indicated moderateknowledge, positive attitudes and high level of practice regarding Evidence based physical therapyby cumulative average of 68% for knowledge and 74% for both knowledge and practice. Moreover,the therapist's perceived low agreement that physical therapy employers aresupporting evidence based physical therapy.

Inferential statistics indicatedsignificant relationship between part of sample demographic characteristics and knowledge, attitudes and practices regarding evidence based physical therapy, for example the education degreefor therapists found to have a statistical relationship with evidence based physical therapy practice, similar relationship found between number of read physical therapy articles and knowledge and practice of evidence based physical therapy. On the other hand, being employed as a full time position and the ability to access to physical therapy search engines found both to have a significant relationship with evidence based physical therapy knowledge, attitudes and practices.

Nevertheless, results illustrated non-significant relationship regardingtherapist's age, years of experience andattaining diploma in physical therapy before bachelor degree and evidence based physical therapy practice.

On the other hand, therapists perceived the limited time they have andlow ability to interpret statistical analysisas major barriers to evidence based physical therapy practice.

Group of recommendations were suggested topromote evidence based physical therapy, such as developing specialized module for this competencyat physical educational programs, support physical therapists to buildup their capacities in evidence basedphysical therapy, and to promote evidence based physical therapy environment through providing logistics and other sorts of support.

العلاج الطبيعي المستند إلى البراهين هو مهارة نامية لدى اختصاصي العلاج الطبيعي حول العالم، برغم ذلك، هناك نقص واضح بالمعلومات حول مستوي هذه المهارة لدى أخصائيين العلاج الطبيعي في قطاع غزة.

تهدف هذه الدراسة لاستكشاف مستوى المعرفة، التوجه والمهارة لدى اختصاصيين العلاج الطبيعي بما يتعلق بالممارسة المستندة إلى البراهين في قطاع غزة، واستكشاف أيضا فيما لو ان هناك علاقة ما بين هذه المتغيرات الثلاثة وبعض الخصائص الديموغرافية المختارة لعينة الدراسة مثل العمر، سنوات الخبرة، مكان العمل ومتغيرات أخرى. لهذا الغرض استخدم الباحث استبانة قام اختصاصيو العلاج الطبيعي بإكمال البيانات المطلوبة بها بدون مساعدة الباحث، إضافة إلى عقد مقابلة كمنهجية بحث مختلطة لجمع البيانات الكمية والكيفية، بحيث قام 244 اختصاصي علاج طبيعي بإكمال الاستبانات بنسبة استرداد وصلت إلى 97.6%، بينما قام الباحث بعقد مقابلة معمقة مع رئيس أحد أقسام العلاج الطبيعي في واحدة من الجامعات المحلية، من ناحية أخرى، كانت قراءات معامل ألفا كرون باخ عالية في كلا العينتين، الاستطلاعية والكلية.

أشارت نتائج الدراسة إلى مستويات عالية حول معرفة، توجه ومهارة اختصاصي العلاج الطبيعي بما يتعلق بالممارسة المستندة إلى البراهين في قطاع غزة بدرجة موافقة 68.27%، 72%، 73% على الترتيب، إضافة لذلك، أظهرت النتائج مستوى موافقة منخفض بنسبة 60% بما يتعلق حول أراءهم حول جهود مزودي خدمات العلاج الطبيعي لتوفير بيئة داعمة للممارسة المستندة إلى البراهين.

أشارت نتائج الإحصاء الاستدلالي إلى وجود علاقة ذات دلالة إحصائية بين بعض من الخصائص الديموغرافية من جهة ومعرفة واتجاه ومهارة اختصاصي العلاج الطبيعي حول الممارسة المستندة إلى البراهين من جهة أخرى. على سبيل المثال، هناك علاقة ذات دلالة إحصائية ما بين أعلى درجة علمية قد حصل عليها الاختصاصي ودرجة ممارسة هذا الاختصاصي للعلاج الطبيعي المستند إلى البراهين، وأيضا أظهرت النتائج علاقة مشابهة ما بين عدد مقالات العلاج الطبيعي التي يقرأها الاختصاصي من جهة، ومعرفة ومهارة هذا الاختصاصي حول الممارسة المستندة إلى البراهين من جهة أخرى، من ناحية أخرى، هناك علاقة إحصائية

ذات دلالة ما بين كون اختصاصي العلاج الطبيعي يعمل بدوام كامل او بدوام جزئي إضافة إلى وجود محركات بحث العلاج الطبيعي في مكان العمل من عدمه من جهة، و معرفته و توجهه ومهارته حول ممارسة العلاج الطبيعي المستندة إلى البراهين من جهة أخرى. وقد أشارت الدراسة إلى العديد من العوائق التي تحد من ممارسة العلاج الطبيعي المستندة إلى البراهين وأبرزها ضعف مهارات اللغة الإنجليزية ومحدودية محركات البحث لمقالات العلاج الطبيعي داخل أماكن تزويد خدمة العلاج الطبيعي في قطاع غزة.

من ناحية أخرى، أشارت النتائج إلى علاقات إحصائية ليست ذات دلالة ما بين العمر، عدد سنوات الخدمة، حصول الاختصاصي على درجة الدبلوم في العلاج الطبيعي قبل حصوله على البكالوريوس ومعرفته، واتجاهه ومهارته لممارسة العلاج الطبيعي المستند للبراهين.

تخلص الدراسة إلى ان اختصاصي العلاج الطبيعي في غزة لديهم مستوى معرفي عالي واتجاه إيجابي ومستوى ممارسة عالية بما يتعلق بالعلاج الطبيعي المستند إلى البراهين، إضافة لوجود علاقة ذات دلالة إحصائية بين هذه العناصر وبعض من الخصائص الديموغرافية مثل مستوى التعليمي للاختصاصين، مكان عملهم، طبيعة مناصبهم وعدد مقالات العلاج الطبيعي التي يقوموا بقراءتها. وقد خلصت الدراسة بأن ضعف مهارات اللغة الإنجليزية وعدم توفر محركات بحث داخل مزودي خدمات العلاج الطبيعي يحد من مستوى ممارسة العلاج الطبيعي المستند إلى البراهين من وجهة نظر الاختصاصين.

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List of abbreviations

APTA	American Physical Therapy Association
CEBM	Centre For Evidence-Based Medicine
EBM	Evidence Based Medicine
EBPAS	Evidence-Based Practice Attitude Scale
EBPT	Evidence Based Physical Therapy
IUG	Islamic University Of Gaza
KAP	Knowledge, Attitude And Practice
MOEHE	Ministry of Education And Higher Education
MoH	Ministry of Health
OTS	Occupational Therapist
PPTA	Palestinian Physical Therapy Association
PT	Physical Therapy
PTs	Physical Therapists
RCT	Randomized Control Trails
UNICEF	United Nations Children's Fund
UNRWA	United Nations Relief And Works Agency For Palestine Refugees in the Near East
WCPT	World Confederation Of Physical Therapy

Chapter 1

Introduction:

Back ground:

Physical Therapy "PT" is one of health care professions that has developed noticeably in Palestinein the last decade, according to the World confederation of Physical Therapy " WCPT" PT aims to maintain, develop and restore patients maximum movement and functional abilitythroughphysicalmeans(WCPT, 2017a). However,the American Physiotherapy Association "APTA" define Physical therapists “PTs” are health care professionals who responsible to maintain, restore, and improvemovement, activity, and health enablingindividuals of all ages to have optimalfunctioning and quality of life(APTA, 2011).

PT interventions crosses the entire life span, from neonate to the frail elderly, and deals with cases as orthopedic problems, neurology, pediatric, elderly and many other cases, in addition to the rehabilitation of sports injures which is an important step in restoring/gaining physical fitness.

Many factors have influenced development of PT profession, such asthe need of rehabilitation of thousands affected by polio outbreaks in the united states in 1916. Moreover, the World War 1 injured soldierspushed the medical care professional to advance the physical rehabilitation specialty in order to help those soldiers for not being dependent, since ever, PT profession started to grow and gain more public recognition (Learning, 2017).

As many countries in the region, PT profession is a demanded medical profession inPalestine where people with physical disabilities counts 48% based onPalestinian Central Bureau of Statistics"PCBS" statisticsw(PCBS, 2011), in addition to the frequent

militaryconflicts that result in increasing the number of people with injuries. Therefore, quality PT intervention is required to provide physical habilitation and rehabilitation services to patients, where Evidence Based Physical Therapy(EBPT) can make a difference to shorten thetreatment period and thus increasing the quality of care.

PT intervention entitles diversity of skills that every therapist can use for practice and follow up. Such as decision making, problem solving and good communication skills are all personal skills improve the capacity of therapist to provide a quality physical therapy services. Adding to this, EBPT considered an effective competency that helps the therapist to provide quality intervention based on the fact of supporting therapist decision by scientific evidence towards best care possible.

EBPT is one of PT competencies that aims to rise the quality of PTs intervention through integrating best research evidenceofcertain diagnosis,in addition to takingthe therapist experience in considerationand patient treatment preferences(WCPT, 2017a).

Moreover, many factors are necessary to provide enabling environment for EBPT practice such as access to PT journals andsearch engines, providing PT text books library and many more.

In Palestine there are 7 physical therapy educationacademic programs with an average of 350 PT graduated per year, moreover, the Palestinian physical therapy association "PPTA" registers indicated around 2500 PTs of those holding PT license, (PPTA, 2015a).

In Gaza strip number of registered PTs are 450 and Physical Therapy Assistants "PTAs" are estimated by 650 (PPTA, 2015a). PTAs are allowed only for treatment plan implementation, in contrary PTs are responsible to diagnosis, set the problem list and apply the intervention.

Its worthy to mention that EBPT do not has specific module at physical therapy study plan of both universities in Gaza strip, neither PT practice policies that points to this

competency, which result in differences of EBPT skills among PT students and practitioners since this competency was left to their interest and self-learning.

1.1. Study justification:

EBPT is crucialcompetencythatPTs use to promote the quality of care to their patients, however, (annex 6 and 7) show that PT curriculums at local universities in Gaza do not introduce EBPT through special courses, but rather through ad hoc manner that depends on lecturer knowledge and their level of experience.

On the other hand, health research in Palestine still face major challenges, although the Ministry of Health "MoH" had determined improving health research as one of health strategy indicators in Palestine(MoH, 2013), further efforts still needed to strengthhealth research(Aljeesh & AlKhaldi, 2018). However, the limitednumber of publicationsproduced by PT academic programs at universities and PT care providers in addition to the limited number of research labs related to PT care has contributed to dearth of information on the status of PT profession in Gaza strip,this includes EBPTknowledge, attitudes and practice among PTs in Gaza.

1.2. Problem Statement:

Practicing EBPT requires group of skills, such as the ability to seek evidence, good level of experience and personal skills to identify patient preferences. EBPT skills has never been assessed in Gaza by any actor, and information on it still unclear.

EBPTprinciples areusually introduced during study yearsat the academic programs throughtheoretical and practical courses, this usually happens at PT entry level programs in Gaza based on lecturer skills and not according to a structuredcourse. Then after graduation, PTs can keep developing this competency through practice.

Nevertheless, there is lack of information on level of PTs knowledge, attitudes and practice regarding EBPT, as little information is available in this regard. This gap of information implies as well on challenges and barriers that stand in front of practicing EBPT.

1.3. Study objectives:

This study aims to shed the light on PTs knowledge, attitudes and level of practice regarding EBPT in Gaza governorates,in particular this study aims at:

1- To explore level of PTs knowledge, attitudes and practicesregarding EBPT in Gaza governorates.
2- To evaluate the relationship between PTs knowledge, attitudes and practices regarding EBPTand selected background characteristics of PTs.
3- To identify barriers and challenges regarding EBPT at educational programs and at PT service provision locations.
4- To set recommendation to improve EBPT practice in Gaza governorates.

1.4. Study Questions:

It is expected for this study to answer group of questions regarding EBPT, and clarifies dimensions of its practicein Gaza, however, the main question for this study is: How the PTs perceive their knowledge, attitudes and practice regarding EBPT in Gaza governorates? The study should answer the following subdividedquestions:

A) Is there an association between selected demographic input"age, gender, academic qualification, workplace andyears of experience" in one hand, and perceived EBPT knowledge, attitude and practice by PTs on the other?
B) How often do PTs use EBPT in decision making process in their daily practice?
C) What are the mainbarriers that hinder EBPTpractice in Gaza governorate from PTs point of view?
D) What are the main recommendations to improve EBPT knowledge, attitude and practice in Gaza?

1.5. Study context:

People with physical disabilities in Gaza strip count 48.6% of total disabilities in Gaza strip(PSCB, 2011), where the majority of them still in need for physical habilitation or rehabilitation at certain point of their lives, so here PT profession make change for them.

The provision of basic health services in Gaza remains a key humanitarian concern, The blockade imposed by Israel since 2007 and recurrent Israeli aggression have inflicted large-scale destruction on Gaza's infrastructure and productive assets(OCHA, 2016), mainly this situation has drawn attention of donors and decision makers on emergent health care services provision rather than investing in health research which aims to enhance quality of services, which resulted in limitation of expertise and updated knowledge for some professions such as PT service.

Gaza has a young population, with median age of 18, near halfof the population in Gaza are below 15 years of age, however, the most dense areas in Gaza are Refugee Camps with densities that exceed 40,000 persons /km2, followed by the main cities of Gaza, Jabalya, DeirAl Balah, Khan Younis and RafahGovernorate with densities that range between 20,000 to 40,000 persons /Km2, moreover, the poverty is more prevailing in the middle and southern governorates (i.eDeir Al Balah, Khanyounis and Rafah, in addition to Southern Gaza (Johr Al Diek) and Um AlNaser in North Gaza. Poverty in these areas is extreme with rates that exceed 40% of families living below Gaza poverty line(PCSB, 2017).

On the other hand, the protracted occupation and blockade has had a direct impact on the health of Palestinians, for example, from violence-related deaths, traumas and injuries, and mental health disorders. There are also indirect impacts because of obstacles to the essential health and nutrition services, which represent a violation of the right to health. The internal Palestinian divide has also affected the quality and availability of health care

in Gaza. While restriction on patient referral mechanisms still in place and affect treating hundreds of patients in abroad health care facilities.

With increasing pressure over Gaza strip, the socioeconomic situation decline, conflict and closure have left the health sector across the Gaza Strip lacking adequate health care services. In addition to high unemployment rates that reached over 60% (WorldBank, 2018). These challenges further threaten the health of the population, which is already at increasing risk. Food insecurity and rising poverty mean that most residents cannot meet their daily caloric requirements, while over 90 per cent of the water in Gaza has been deemed unfit for human consumption(UNRWA, 2017).

Community members can access to PT service through main health actors such as MoH, UNRWA and other non-profit societal organizations. However, the majority of PT service providers are accessible to beneficiaries as most of rehabilitation services centers, where the services is offered free of charge at the majority of them.

According to ministry of health, the Number of PT service providers in Gaza reached 40 center and clinic, where MoHand UNRWA own the biggest number of PT clinics (around 22 clinic in the 5 governorates, followed by non-governmental organization by 12 clinics, then private PT clinics by only 6 clinics (MOH, 2016).

Statistical reports in 2016 indicated that PT departments in MoHhad delivered 108,206 PT session to 21,282 patients in primary health care clinics and main hospitals in Gaza governorates(MOH, 2016), which reflects high demand for this profession, moreover, near 60%(PPTA, 2015a) of PTs are working in private PT practice " Home visits" so that they are out from any records.

Chapter 2

Theoretical Frame work:

2.1 Theoretical Framework:

The theoretical frameworkis an important component, in which the researcher sets the basis of investigation which will be used to respond to the study problem statement, main objective and questions.

Theoretical frameworks can provide navigational devices through the “low, swampy ground” of practice disciplines in studies concerning complex human behaviors that invite multiple, relevant, complementary perspectives and methods of investigation that take into account the importance of causal mechanisms.(Evans, Coon, & Ume, 2011).

The World Confederation of Physical Therapy "WCPT" indicated thatEBPT is a process where PTsdecide on best care to patients based on 3 main inputs: research evidence, therapist expertise and patient preferences (WCPT, 2017a), which means that the process of determining best care does not depends solely on research evidence in choosing best care, but extends further to take in consideration the therapist experience, skills, knowledge and patient preferences.

Hereafter, theoreticalframework present personal and institutional factors as EBPT building blocks.

a) Personal factors:

For any PT competency that a therapist is willing to develop, at the first line, the personal characteristics arethe corecomponent thatdrives the competency development, in addition to this, the level of awareness on EBPT importance plays an important role in sensitizing PTs to learn more in this concept.

One of important factors that determines level of EBPT knowledge, attitudes and practice is the level of PT willingness to self-learning, and to develop skills needed to raise the

capability to understand and react with patient problems, however, the quality of education that the therapist had received plays a major role in improving EBPT knowledge, attitudes and practices. Especially if EBPT education is prerequisite for students to attain their graduation degree, which is not the case in physical therapy educational programs in Gaza.

In this regard, PTs education programs consider as first station that PT can learn and build their knowledge and attitudes regarding EBPT, and necessary skills for the sake of its implementation.PTs then after start to collect more knowledge and experience on best practices to master EBPT.

On the other hand, the learning process start by PTs motivation, where they respond to stimulus during their academic years on EBPT, this usually depends onplans of PT program leaders to introduce this competency to PT students to allowthemobserving benefice of EBPT.

ThroughEBPT practice, PTsusually seek for mentoring and support from supervisors to gain more experience and to sharpen their skills, this contributes in minimizing level of errors and ensure smooth information exchange and build attitudes towards EBPT.

Following initial practices, PTs keep growing up their skills and confidence practicing, performing some control and keep reading about EBPT. At this stage, encouragement is required, and sharing the experience is such a good way of exporting achievement and thus confidence will be built.

At later stage, and when PTs start to develop balance of EBPT practice, they reach skillfulness, which means they practice EBPT on their way, and based on style they see appropriate. Then they feel good about themselves, having positive reinforcement, sharing their knowledge and success and build more confidence.

However, further improvement and learning new methods start to pop up, at this stage EBPT becoming second nature of practice. PT continue to develop and become more aware of what he/she is doing, and having this practice as a habit.

b) Institutional factors:

Many factors stand behind creation of EBPT knowledge, attitudes and practices. For example, environmental factors play major role in enhancing EBPT practice, it is shows more advantage to have positive and encouraging environment to promote EBPT competency. Furthermore, an environment that is enriched by text books, PT search engines and other logistics will definitely lead to better EBPT knowledge, attitudes and practices.

Higher education represents a critical factor in innovation and human capitaldevelopment and plays a central role in the success and sustainability of the knowledgeeconomy.

Beyond the personal factors which guiding the therapist EBPT action, many other factors influence the level of EBPT knowledge, attitudes and practices, such as the nature of PT education in which therapist had received during his\her years of study. In this regard, it is important to distinguish between those programs that include EBPT as part of PT study plan, and those which miss it, where in Gaza both PT educational programs do not have a specific module (Annex 6 and 7).

On the other hand, EBPT Knowledge, attitudes and practices are influenced by the workplace environment where PTs practice their profession, for example, it does not sound easy for those PTs whom usually have a workload of 14 patients per day in 6 hours to find sufficient time to use PT search engines, or to leave their patients and start to read articles unless the supervisor specifies some time for this to happen. Similar situation would apply if PTs did not have the ability to access to PT search engines at their work places.

Nevertheless, the attitude of PT supervisors and clinics managers towards EBPT play a key role in promoting PTs EBPT knowledge, attitudes and practice,if they believe in its benefit to patient,then EBPT will be more positive and having much more space in PT daily practice

On the other hand, policies and regulation of PT profession can influence EBPT as the governing body can motivate PTs to practice based on EBPT at least at minimum level, which open the road for those interested to expand their knowledge and skills on this competency.

In Palestine regulations to governors EBPT are missed, even for all competencies that isrelated to PT practice, this is expected to lead in low adherence to EBPT practice.

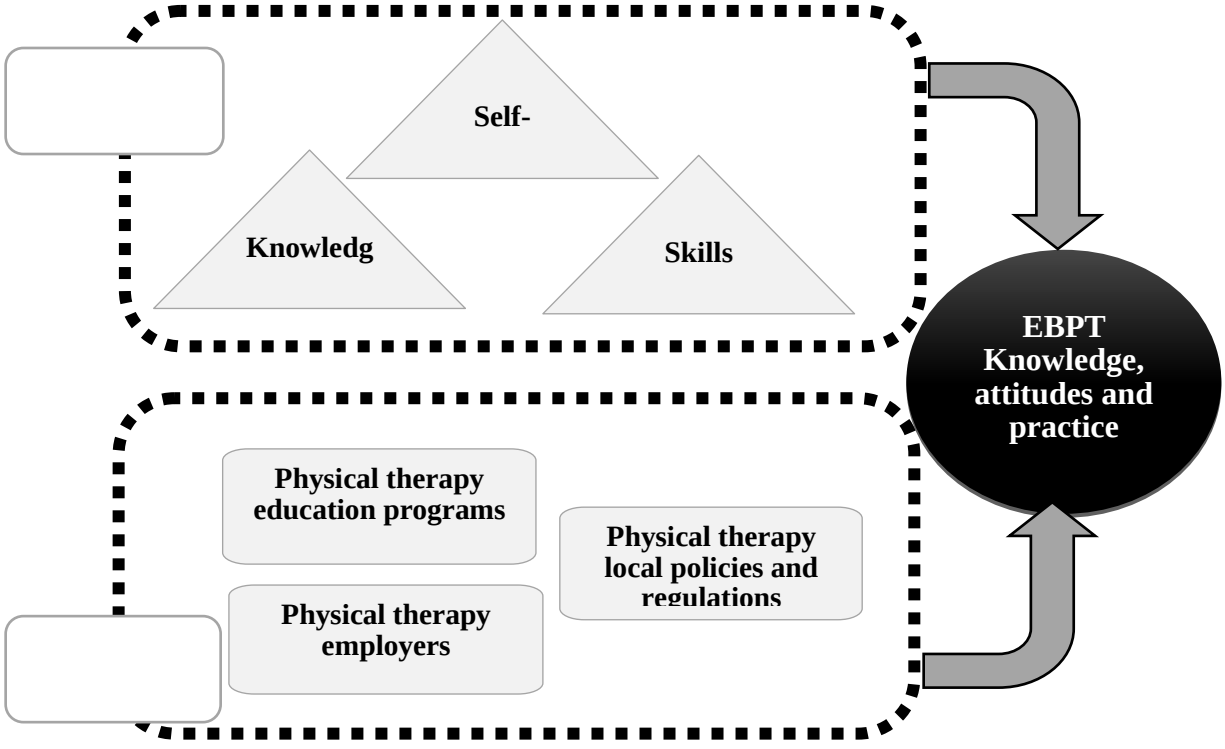

Figure (2.1) Theortical Framework

2.2 Literature review:

2.2.1 Background on Physical therapy profession:

PT profession is one of medical professions that aimsto develop, maintain and restore maximum movement and functional ability to individuals throughout their lifespan,this service is provided in circumstances where movement and function are threatened by ageing, injury, pain, diseases, disorders, conditions or environmental factors and with the understanding that functional movement is central to what it means to be healthy(WCPT, 2017b).

Historically, Greek culture and Hippocrates' influence as the father of Western medicine. In the 1500s, 1600s, and 1700s in Europe, the use of exercise to treat muscle and bone disorders and disabilities progressed, and by the 1800s exercise and muscle re-education were being used for a variety of orthopedic diseases and injuries(APTA, 2011). Moreover, PT profession started to evolve during World War 1 as a response of the massive need of rehabilitation of injured soldiers, additionally, Poliomyelitis outbreak in the united states and part of Europe was huge motive for this profession to develop(Learning, 2017).

Furthermore, during the last decades, PT profession has developed at many countries, where sub-specialties were identified to increase quality of PT services to beneficiaries, so that practitioners started to provide special techniques that targets specific health conditions such as musculoskeletal, geriatrics, pediatrics and many other sub specialties.Whichcontributed to provide more quality care to their beneficiaries.

The health care profession requires groups of skills which makePTs capable to solve problems which the beneficiary expresses, as decision making, analytical skills, problem solving, communication, hand skills and many others skills are required for PTs to assist delivery of best care.

However, the qualified PT is able to decide on best approaches to assess patient problem and intervene effectively and efficiently to the best of beneficiary health and, however, to consult him\her in order to ensure best follow up techniques in which it could preserve good level of independency.

PT practice involves the interaction between the PT, patients/clients, and other health professionals, families, care givers and communities in a process where movement potential is examined/assessed and goals are agreed upon.

PTs are autonomous practitioners prepared through professional entry-level physical therapy education, and they exercise their professional judgment to reach a diagnosis that directs their physical therapy interventions/treatment, habilitation and rehabilitation of patients and concerned with identifying and maximizing quality of life.(WCPT, 2017a).

Moreover, physical therapist can also participate in policy development, decision making process, and teaching research and other tasks beyond practicing physical therapy, services are provided at many locations in the community, starting by private practice through clinics and moving to physical therapy services at hospitals, clinics, non-governmental health care organization.

2.3 Physical therapy profession in Palestine:

In Palestine, the number of physical therapists estimated by 2400 physical therapists in West bank and Gaza strip, where 1500 of them are registeredat association records, while the rest are practicing without registration or engaged on another profession(PPTA, 2015b). However, the ministry of health "MoH" considered as the main provider for PT service in Palestine by hiring more than 150 PTs, (MOH, 2016), while only 50 physical therapists works in United Nations Relief and Works Agency "UNRWA" primary health care clinics and 56 are working for non-governmental organizations.

On the other hand, PT profession still faces major challenges for the sake of its development, where the high unemployment rate among the graduated PTs consider as main barrier to that end. As the Palestinian Physical therapy association " PPTA"reported, over 74% of graduated PTsdo not have a full time job(PPTA, 2015b).Additionally, most of those PTs are working in private practice without governing system for this part of profession. Nevertheless, Palestine is not a member in the WCPT which places additional obstacles in front of profession development, and hinders the capability of PTs to develop their capacities and share their experiences with the rest of the world. Adding to this, weak cooperation between west bank and Gaza physical therapy associations' representatives contributes by a way or another to limitation in promoting this profession at community and other medical team levels.

2.4 Physical therapy education in Palestine:

There are few PTeducational programs in Palestine, 5 programs in West bank and 2 in Gaza(MoEHE, 2017), which has an average of 350 physical therapy graduate per year. Furthermore, there are 4 educational institutions that graduates physical therapy assistants "2 years PT program', which has an average of 200 graduate per year.

Physical therapy educational system lacks graduate degrees (master and doctor of philosophy) in the local physical therapy programs, this has limitedthe number of master and doctor of philosophy holders in Palestine.

2.5 Evidence based Medicine:

The term "evidence-based practice" is relatively new. In fact, investigators from McMaster's University began using the term during the 1990s as evidence based medicine "EBM" which was defined as "a systemic approach to analyze published research as the basis of clinical decision making."(Claridge & Fabian, 2005).Then in 1996, the term was more formally

defined as the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.(Sackett, Rosenberg, Gray, Haynes, & Richardson, 2007).

EBM and "evidence-based healthcare" are labels that have been created to link the behavior described by evidence-based medicine to other health care professionals. Hicks provides this expanded definition"care that 'takes place when decisions that affect the care of patients are taken with due weight accorded to all valid relevant information"(Rothstein, 2000).

However, all definitions don't exclude the experience of health care provider, it only mentions the idea of supporting decision making process that this will put into consideration multiple opinions which is scientifically based.

Nevertheless, health care providers felt increasing pressure to work for long hours and to see more patients even though they have few hours in their normal routine day to dedicate to self and continuing education,they usually make their clinical decisions based on their own practical experience.

The practice of EBM is usually triggered by patient encounters which generate questions about diagnostic tests, treatment, or diseases prognosis. EBM attempts to find the best answers for these questions based on a wide review for a range of literature published on medical journals that apply strict criteria for the validity of research. The evidence, by itself, does not make the decision, but it helps clinicians to take the best decision regarding the patient care process and enhances the opportunity for better clinical outcomes. Now, with the Web and electronic health records, practicing EBM has become easier for clinicians. There are large online databases that clinicians can easily search for evidence. (Aziz, 2016)

EBM has many other advantages rather than saving time and support practitioner decisions by evidence, when implemented, EBM helps not only for the best medical care but also at

the lowest cost. It is important to cope with the increasing information load and it is the best way to keep updated about the latest in the medical field with the ability to judge the validity of the information, however, EBM requires new skills of the clinician, including knowledge about literature-searching, and the application of evidence rules in appraising the clinical literature. Translating the results of EBM research into everyday clinical practice is a major challenge especially when big gaps are present between the care the patients receive and the practice the evidence suggests is effective. Other challenges include patient preferences and social circumstances, presence of clinical experience, marketing and promotional activity, and current policies.

2.5.1 EBPT building blocks:

PTs can practice EBPT competency during their daily work through using 3 basic actions, best research evidence, therapist experience and patient preferences. (WCPT, 2017a).

Best research evidence:

The best available research evidence is widely accepted as the most commonly used type of evidence at main medical fields. It enables researchers, practitioners, and policy-makers to determine the effectiveness of used intervention based on others experience. The more rigorous a study's research design, "e.g., randomized control trials, quasi-experimental designs", the more compelling the research evidence.

In Palestine, the quality of health research needs to be improved, as around 69% of released studies since 2010 were inadequate reported (Albarqouni et al., 2017), this includes the few PT studies release in Palestine.

Many techniques can be used by PTs to ensure confident access to research evidence, the WCPT keynotes for EBPT suggested group of questions to PTs in order to guide them how to be selective when they look into research findings, to determine whether the article,

research findings are scientifically sound for the problem PT is trying to take decision upon. (Walker, 2005)

- Was the sample randomly selected in an appropriate manner?
- Was the sample size justified?
- If the sample was not selected randomly, was the selection process justified?
- Was selection bias avoided?
- Was the sample described in a way that would allow it to be duplicated?
- Are sufficient details given on inclusion and exclusion criteria?
- Were subjects randomly allocated into groups?
- If the subjects were not allocated into groups randomly, was the way the groups were allocated justified?
- Were all subjects admitted into the study accounted for? At least 80% that started should be reported in outcomes analysis.
- Were inclusion criteria clear and compatible for all studies included in a review article?
- Is the sample like your clinical population, and is your clinical facility similar to the study site?

Answers of above questions will guide the therapist to uncertainty level regarding the evidence in between his\her hands, then PT can decide whether if this evidence is convenient or not.

Therapist clinical expertise:

Clinical expertise includes the general basic skills of clinical practice, as well as the experience of the individual practitioner(Haynes, Devereaux, & Guyatt, 2002).It refers to implicit knowledge about physical therapy skills (assessment, intervention, prognosis and

disease prevention) from the cumulative years of beneficiary caring, and working to refine that care.

Professional clinical expertise is passed from clinician to clinical in the formal academic setting, post professional education (e.g. continuing education courses, residencies), formal mentorship, and informally between colleagues, however, as dose research evidence, clinical expertise needs to be appraised for quality(Tilson& Fetters, 2012).

Patient values and preferences:

The patient and his\her caregiver creates the most important part for evidence to decision making process, patient values which is beliefs, preferences, and expectations is one part of the process, however, his\her circumstances "co-morbidities, access to care and support network" is another important part which should be considered.

All patient values and circumstances can be influenced by the culture with which a patient identifies, some culture characteristics are easy to recognize, while other need more experience by the therapist to notice. For example, in the Middle East, PTs should be aware of that in Arab culture it is not recommended forfemale patients to be treated by male therapists, and if this happens then it may cause inconvenience to both therapist and the patient.

2.5.2 Level of PT evidence:

When PTs seek for research evidence, they should select the highest possible level of evidence to ensure best care to their patients, as levels of evidence are arranged in a ranking system used to describe the strength of the results measured in a clinical trial or research study.

However, many approacheswere developed regarding evidence appraisal,in which inannex 8 the researcher pointed to the 2011 OCEBM Levels of Evidencedeveloped by Oxford university in the united kingdom for evidence appraisal.The OCEBM Levels of Evidence

was designed so that in addition to traditional critical appraisal, it can be used as a heuristic that clinicians and patients can use to answer clinical questions quickly and without resorting to pre-appraised sources. Heuristics are essentially rules of thumb that helps us make a decision in real environments, and are often as accurate as a more complicated decision process(Jeremy Howick et al., 2018), moreover, this rank was designed so that it can be used as a short-cut for busy clinicians, researchers, or patients to find the likely best evidence, Following are major research types on the 2011 OCEBM.

Systematic reviews:

Systemic review uses explicit and rigors methods to identify, critically appraise, and synthesize relevant studies(Cook, Mulrow, & Haynes, 1997), it doesnot seek a new knowledge but rather to synthesis and analyze current knowledge. When defining reviews, it is useful to think of them on spectrum, going from very subjective (narrative review) to the very objective (meta-analysis).

Clinical Guidelines:

Clinical guidelineisa tool that assist PTs to provide best care to their clients based on evidence. The WCPT define clinical guidelines as they are systematically developed statements which help the practitioner and patient make decisions about appropriate health-care in specific circumstances.Clinical guidelines set out the most effective means ofmanaging a condition or clinicalproblem,by finding, appraising and summarizing relevant research on the topic. Clinicalguidelines uniquely providerecommendations for practice thatare derived from the comprehensiveassessment of available evidence. (Mead & Wees, 2006).

Randomized Control Trial:

Randomized control trials are true experiments and are considered to be a highly rigorous research design. They are the strongest research design for establishing a cause-effect

relationship. Randomized control trials have a control "no treatment" group and randomly assign participants to the control or treatment condition.

They have several important features(Roland & Torgerson, 1998)

- Random allocation to intervention groups
- Patients and trial lists should remain unaware of which treatment was given until the study is completed-although such double blind studies are not always feasible or appropriate.
- All intervention groups are treated identically except for the experimental treatment.
- Patients are normally analyzed within the group to which they were allocated, irrespective of whether they experienced the intended intervention (intention to treat analysis)
- The analysis is focused on estimating the size of the difference in predefined outcomes between intervention groups.

Quasi-Experimental Design

Quasi-experimental research designs, like experimental designs, test causal hypotheses. In both experimental "i.e., RCTs" and quasi-experimental designs, the program or policy is viewed as an ‘intervention’ in which a treatment – comprising the elements of the program/policy being evaluated, is tested for how well it achieves its objectives, as measured by a pre specified set of indicators.

“If a design uses multiple groups "without random assignment" or includes multiple measurement points, it is considered quasi-experimental. Quasi-experimental designs are considered to be rigorous designs, although not as rigorous as randomized control trials because participants are not randomly assigned to treatment and control conditions and may not be equivalent from the start” (Puddy & Wilkins, 2011)

Cohort studies:

A cohort study is an observational study in which a study population (a cohort) is selected and information is obtained to determine which subjects either have a particular characteristic that is suspected of being related to the development of certain problem, or have been exposed to a possible etiological agent, it has a temporal framework to assess causality and thus have the potential to provide the strongest scientific evidence(Song & Chung, 2010).

The entire study population is then followed up in time, and the incidence of the disease in the exposed individuals is compared with the incidence in those not exposed. Thus cohort studies resemble intervention studies in that people are selected on the basis of their exposure status and then followed up in time, but differ from them in that the allocation to the study groups is not under the direct control of the investigators.

Anecdotal Studies:

Studies that are based on anecdotal information "information not derived from empirical research or subject matter expert opinion", needs assessments, or windshield surveys are examples of this kind of research.

2.6 Process of Physical Therapy Evidence based practice:

PTs have a moral, professional and ethical obligations as professionals to provide evidence based service to move away from interventions that are based solely on anecdotal testimonies, expert opinions, or physiologic rationale. However, EBPT process starts with creating a question in response to a patient/client's problem or concern, then after, a search for relevant evidence to answer the question is then followed by a critical appraisal of its merits and conclusions, as well as a determination of its applicability to the patient/client. At the conclusion of the appraisal, the therapist will consider the evidence in the context of

his or her clinical expertise and the patient/client's values and preferences during an explicit discussion with that patient/client(Jewell, 2017).

2.6.1 Step One: Ask a clinical question

When physical therapists face specific case which requires certain assessment and\or intervention, the first thing should come to his\her mind when deciding to apply EBPT is to ask a clinical question that should be well phrased, precise and should expect one answer to it, then after, the therapist starts to seek for best evidence to support decision he\she will made.

PICO format was designed to ask a clinical question which points to patient problem, the clinical should deify what he\she is looking for, PICO style will provide the guide to the first step is to identify your information needed.

Letter "P" stands for patient problem, "I" interventions, "C" comparison and "O" outcome.(Guyatt, Rennie, Meade, & Cook, 2008).

2.6.2 Step Two: Search resources for the best evidence

Search for best evidence to answer question, there are many websites that contains database with advanced search engines which could provide a huge data to researchers, like "PERDO, Academic Search Complete, BMJ Clinical Evidence, CINAHL Complete, Cochrane Library, MEDLINE "EBSCO", OVIDMD plus Collection Revised, PEDro, PubMed (Medline), StatRef, TRIP "Turning Research Into Practice", UpToDate".

2.6.3 Step Three: Appraise the evidence

One of popular evidence appraisal techniques was produced by Oxford university, titled by Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence(Jeremy Howick et al., 2018), PTs usually refer to the schedule in annex 8 to determine level of evidence for all of resources they have.

2.6.4 Step Four:Apply evidence

Apply evidence - Integrate evidence with clinical expertise and patient preferences/values.

2.7 Knowledge, attitude and practice "KAP" survey:

A Knowledge, Attitude and Practices survey is a quantitative method that provides access to quantitative and qualitative information. KAP surveys reveal misconceptions or misunderstandings that may represent obstacles to the activities that we would like to implement and potential barriers to behavior change.

KAP survey essentially records an "opinion" and is based on the "declarative" (i.e., statements). In other words, the KAP survey reveals what was said, but there may be considerable gaps between what is said and what is done (USAID, 2017). A KAP survey usually is conducted to collect information on the knowledge (i.e., what is known), attitudes (i.e., what is thought), and practices (i.e., what is done) about general and/or specific topics of a particular population, information is collected through a structured standardized questionnaire that may include both quantitative and qualitative data.

A KAP survey can generate data that can be used for the following purposes: (WHO, 2017)

1. To identify knowledge gaps, cultural beliefs, and behavioral patterns that may identify needs, problems, and barriers to help plan and implement interventions.
2. To deepen the understanding of commonly known information, attitudes, and factors that influence behavior.
3. To generate baseline levels and measure changes that result from interventions.
4. To assess and identify communications processes and sources important for program implementation and effectiveness.
5. To help set program priorities and make program decisions.

2.8 Knowledge, attitudes and practices of EBPT:

Worldwide, PT practicehas been subjected to criticism because of limited scientific research base for this profession, which was identified to be a gab in PT practice. Although many voices had called to move away from practice which is based solely on the suggestions and personal experience, many PTs still practice their intervention based on information they had received during their PT basic education, in addition to the accumulative experience they had developed through years of experience, a practice which counteract EBPT principles.

However, during the late 1970s and 1980s, physical therapists began to assume more responsibility for clinical decision making and gradually became less reliant on direction from physicians, still clinical decision making tended to be based primarily on intuition, trial and error, and a blind clinging to what was traditionally fashionable (Schreiber & Stern, 2005).

EBPT is aiming at providing best care to beneficiaries, and provides good learning process to practitioners to improve patients and communities care, in addition to reduce the variation in practice among therapists, in addition to that, EBPT aims to use evidence from high quality research to inform practice, balancing known benefits and risks and make more transparent decision making process, and integrating patients to that process.(WCPT, 2017a).

Unlike nursing and medicine profession, little research has been noticed on assessing level of PTs knowledge, attitudes and practice regarding EBPT in the Arab countries. for example In Jordan, there are no published studies that addresses physical therapy practice at any of physical therapy journals " i.e. Physiotherapy journals, Pedro, Physiopedia", while there are group of studies that tackles barriers that is facing Jordanian nurses in

adopting evidence based nurse are lack of time and lack of nursing autonomy(E Brown, Wickline, Ecoff, & Glaser, 2008).

Furthermore, some studies points to physicians in Jordan also perceived high willingness to adopt EBM and to address challenges they face throughout evidence (Al Omari, Khader, Jadallah, Dauod Ali, & Al-shdifat Amjad Ali, 2009), which implies that nurse and medicine are more likely to have a record of research regarding evidence based practice more than PT profession.

In general, evidence based in medical fieldIn the middle east is not used as it should be in decision making processes at health facilities, in that regard, a study shows that more than 40% of decision makers at health care service providers stating that evidence is not delivered at the right time, although that 88% of them stating that evidence is required in making decisions (El-Jardali et al., 2012).

However, despite numerous calls for a shift toward the use of research and scientific evidence to guide practice in PT profession, many studies pointed to limited utilization of evidence in intervention decision making process.For example, the majority of PTs in Saudi Arabia reported low practice of EBPT due to absence of EBPT formal education, additionally, a prominent gap has reported in terms of understanding and applying the concept of EBPT among physiotherapists(Alshehri , Alalawi, Alhasan, &Stokes, 2017).

In Palestine, the first-ever attempt to introduce and promote EBP to doctors and other health professionals in Palestine was made by DrKhamisElessi"A Neuro rehabilitation consultant and a senior educator in the field of health research and EBM" in year 2005, when he presented a series of 3 lectures on EBM & EBP to MSc students from the Islamic University-Gaza (IUG). This batch was a cohort of PTs, occupational therapists "OT" and Nurses.

Many of health care workers are facing challenges to find time in developing their skills and doing continuous education after their enrollment in practice, or perhaps the working environment is not encouraging them enough to practice based on evidence. Even more, lack of policies that regulates EBPT (and other PT competencies) interprets the lower level of EBPT practice among PTs in Palestine. (MOH, 2016).

There was variable understanding of the concepts but in general low interest was noticed in this new topic, but the actual work started in September 2009 when this topic was officially integrated in the research methodology curriculum taught at the faculty of medicine-IUG, and since then a series of workshops, seminars and conferences were successfully organized and attended by hundreds of senior and junior doctors and other health professionals.

Having said that, studies on EBPT in Palestine is not exist, which add more challenge in front of PT decision makers regarding of advancing the quality of PT in Palestine. On that sense, a study which has performed to assess physician level of EBM adoption concluded that even EBM is welcomed by the vast majority of physicians in Gaza, and half of them claimed that they practice on evidence based, the biggest part of respondents identified lack of knowledge and skills are the major response behind limited practice of EBM(Albarqouni & Elessi, 2017).

Globally, there are plenty of research on EBPT knowledge at many countries, while in the middle east there are limited number of studies on EBPT knowledge, attitudes and practices, many researchers had published their findings from many areas around the world, for instance, a study in brazil reported that 89.5% of physical therapist are routinely reading physical therapy scientific papers, on that sense, only 35% of the them reported a clear understanding of the implementation of research findings in their practice, furthermore, approximately 37% reported no difficulties in critically appraising scientific

papers, and 67.2% strongly agreed that EBP is important for their practice (Silva, Costa, & Costa, 2015).

However, similar positive attitudes were found among Japanese PTs, as the results of a KAP survey revealed that 77.1% of PTs agreed to that evidence-based practice supports clinical decision of physical therapists(Fujimoto, Kon, Takasugi, & Nakayama, 2017), furthermore, finding of another study in Iceland showed positive attitudes and good knowledge among Icelandic PTs with regard of EBPT as (Arnadottir & Guðjónsdóttir, 2016).

Even in developed countries, EBPT might be limited due to low awareness of its basic concepts, for example in Austria, a study concluded that Austrian PTs show a low level of engagement in EBPT(Diermayr, Schachner, Eidenberger, Lohkamp, & Salbach, 2015)

Many studies concluded different levels of barriers that stands in front of EBPT, however the majority of them had identified lack of time and misinterpretation of research findings as major challenges in adopting EBPT, and obtaining full-text papers and high cost of EBPT beside the English and other languages barriers(Scurlock-Evans, Upton, & Upton, 2014), while others indicated limited access to search engines, and lack of generalizability of research evidence consider as key barriers for EBPT (Yahui & Swaminathan, 2017).

2.9 Comments on Studies:

Different factors influence EBPT knowledge, attitudes and practice at many countries, however, group of studies concluded that EBP education at entry level programs contributed to better EBPT knowledge, attitudes and practices.

Furthermore, the level EBPT of practice vary from one country to another, depending on available logistics and supportive environment, as the majority of studies indicated, EBPT is growing competency among PTs in which employers play prominent role in either suppressing or encouraging PTs to it.

Although the majority of mentioned studies in this chapter indicated good awareness level forPTs about EBPT, many barriers still stand in front of PTs to practice EBPT such aslimited time and lack of supportive resources, in addition to lack of opportunities to continuous education which promotes their practice based on evidence.

Chapter 3

Research Methodology

This chapter aims to clarify the procedures that the researcher has followed to carry out the study to approach main findings, including identifying study approach, study population description, sample identification, study tools development and how to ensure its validity and reliability, and statistical methods used in drawing study conclusion.

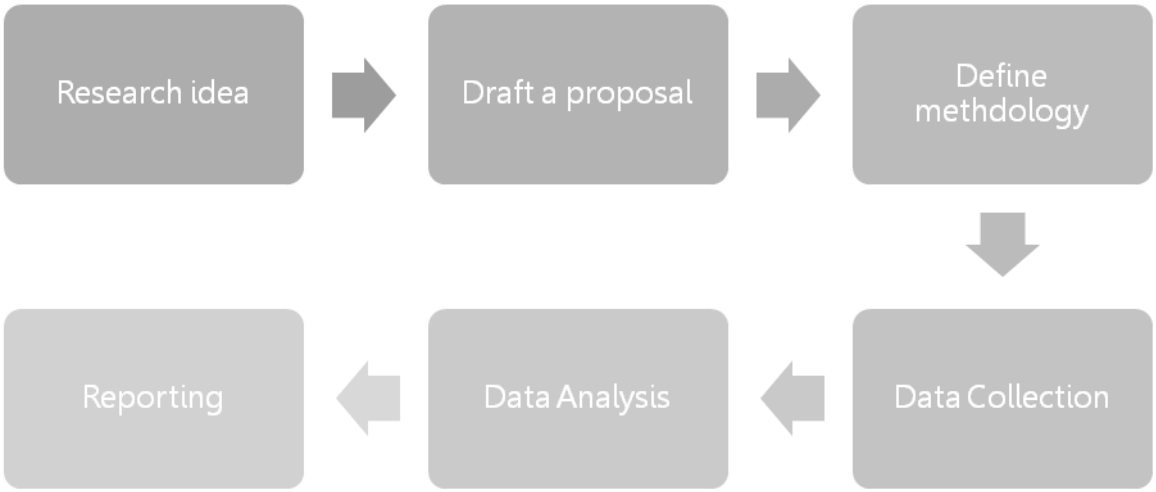

Figure (3. 1) Study structure

3.1 Study design:

Thisstudywas designed to explore the PTs knowledge, attitudes and practiceregarding the EBPT in Gaza stripby using 2 main data collection tools,however, the researcher followed descriptive approach to reach study findings.a descriptive study is one in which information is collected without changing the environment, it can provide information about the naturally occurring health status, behavior, attitudes or other characteristics of a particular group, moreover, descriptive study is used to obtain information concerning the

current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation.

Nevertheless, the researcher followed cross sectional style to achieve study objectives, quantitative methodology was recruitedfor the sake of approaching study findings.

Study Settings:

The study took place in Gaza strip in 12 months, starting from April 2017 to may2018. The proposal has been submitted to the school of public health, then followed by discussion session for the sake of collecting school admin comments on study details "title, design, methodology and all other components".

Moreover, upon approval, the researcher started to prepare data collection tools to collect required data, then he consulted group of experts "Annex 1" in order to have their professional perception on the structure of those tool, afterwards, in November 2017, the researcher started to collect data based on action plan. Where at that stage, data collection took 8 weeks to be completed, and, data analysis, results and report writing took place in February and March 2018.

3.2 Study Population:

Physical therapist’s community at Gaza strip was the primary population that the study had addressed, those therapists whom fulfilled 4 years as undergraduate from a recognized university. It is not necessary for graduates' to hold specific license to be eligible, however, number of PTs in Gaza strip was estimated by 450 PT in 2015.(PPTA, 2015b)

On the other hand, one leader ofphysical therapy entry-level program has been interviewed in order to have an image on education aspect of practicing the EBPT in Gaza strip.

3.3 Development of data collection tools:

3.3.1 Quantitative part:

Following performing literature review that had included reading of previous studies that is relevant to this study, the researcher started to build a self-administrated questionnaire which is formatted based on Likert scale model, however, to determine the minimum and the maximum length of the 5-point Likert type scale, the range was calculated by (5 − 1 = 4) then divided by five as it is the greatest value of the scale (4 ÷ 5 = 0.80). Afterwards, number one which is the least value in the scale was added in order to identify the maximum of this cell.

On the other hand, the researcher had followed steps for the sake of questionnaire development as follow:

A) Determine questionnaire sections
B) Formulate of questionnaire statements for each section.
C) Consider supervisor and other specialties marks on questionnaire,
D) Adjusting the questionnaire based on supervisor notes.
E) Having the questionnaire judged by group of consultants from multiple educational institutes (Al-Azhar, Islamic university and Al-Quds university).
F) After collecting all notes from consultants, the final version of the questionnaire contained 6 sections in addition to consent fromwhich was placed at the front page of questionnaire "Annex 4".

In details, the first section in the questionnaire contained general information of study respondent such as age, sex, highest education attained, living location, specialty, work place, years of experience and many other variables, while the second section contained 6 statementsthat aimed to assess the efforts of PT employers to provide enabling environment of EBPTfrom PTs point of view. Nevertheless, the third section composed of 16 statements that aimed to check PTs perceptionregarding their EBPT knowledgeand the fourth section tackledPTs attitudes assessment regarding EBPT through 13 statements,

furthermore, the fifth section had assessed PTs practices of EBPT through 7 statements, all of statements of aforementioned sections were completed using5-pointed Likert scale(strongly disagree toStrongly agree).

The sixth and final section were designed to assess barriers to practice EBPT with 4 scales (0 Not barrier and 4 is a maximum barrier).

3.3.2 Qualitative part:

Interview protocol was developed by researcher to interview key informant "head of physical therapy program at local university", however, the interview questions were concluded by researcher based on his experience and results of literature review, following are the main areas that questions were derived from:

- Status quo of EBPT in Physical therapy curriculum at local universities
- Factors encouraged EBPT application at different PT specialties
- Motivations that might provide to physical therapists to enhance the EBPT
- Main barriers that might hinder practicing of EBP.

3.4 Scientific rigor:

3.4.1 Validity:

Validity refers to the degree in which our test or other measuring device is truly measuring what we intended it to measure,however, for the sake of ensuring quality data collection tools, the researcher had consulted groups of experts to assess questionnaire relevance and appropriateness, however, all of their comments were taken in consideration, and were reflected into questionnaire final version.

3.4.2 Reliability:

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. In other words, the reliability of any given measurement refers to the extent to which it is a consistent measure of a concept, and Cronbach's alpha is one way of measuring the strength of that consistency, nevertheless, Cronbach Alpha coefficient test has been conducted as reliability test for pilot study responses, following is Table shows result of test:

Table (3. 1) Cronbach`s Alpha coefficient

	Cronbach's Alpha coefficient	
Section	**Pilot study**	**Full study Sample**
EBPT enabling environment	.799	.872
Knowledge of EBPT	.680	.817
Attitudes of EBPT	.697	.705
Practice of EBPT	.633	.831
Overall	.737	.900

3.4.3 Qualitative part:

Key informant interviewhad taken place to collect required data; two procedures had been performed to assure the trustworthiness of the qualitative part in this study which are:

a) Prolonged engagement will be done as the researcher will try to probe for answers and cover all the interview dimensions properly.
b) Recording the interviewto enhance tracking up facts and re-check the accuracy of the transcripts.

3.5 Study Sample size and sampling:

A) Quantitative part:

Based on calculation using EPI INFOsoftware"Annex 2", the software indicated that the researcher is recommended to target 207 PTs, however, the researcher had targeted 250 using convenient technique from all Gaza governorates, of them the researcher was able to

collect 244 questionnaires back from study sample by 97.6% as a response rate, and however, the researcher used the following parameters for sample calculation:

- Maximum accepted percentage of error (confidence interval = 5%)
- Confidence level 95 %
- Total eligible population is 450 based on local physical therapy association.

To reach target population, the researcher divided locations of data sources into 5 regions (North Gaza, Gaza city, Middle area, Khanyonis and Rafah), however, the researcher set a data collection plan that was dependent on physical therapy services locations, governmental, non-governmental and private physical therapy providers, moreover, sampling process was dependent on probability sampling technique (simple random sample).

B) Qualitative part:

A non-probability sampling (judgmental sampling) had been used in key informant interview.

3.6 Selection criteria:

3.6.1 Inclusion criteria:

- PTswhomhad finished their undergraduate degree (Bachelor degree of physical therapy) either from local or international PT schools.

3.6.2 Exclusion criteria:

- Physical therapy students
- Physical therapy diploma holders
- Physical therapy interns.

3.7 Data entry and analysis:

3.7.1 Quantitative Data:

The researcher used statistical package of social science SPSS program for data entry and analysis, moreover, data analysis had performed by researcher in support of supervisor, following are steps for data analysis:

A. Questionnaire was reviewed
B. Data entry was performed after reviewing of the questionnaire.
C. Designing a data entry model using SPSS version 22.
D. Statements of questionnaire were coded and entered into the software,
E. Data cleaning for data sheet,
F. Cross tabulation was started for study specific variables.

Statistical test used:

- Independent t-test
- One-way ANOVA

P-value equal or less than 0.05 was considered statistically significant, with confidence interval (Silva et al.) of 95%.

3.7.2 Qualitative data:

Open coding thematic analysis method has been used to analyze the transcripts of the in-depth interview. The researcher hadobtained the main findings from the transcripts of the interviews. Then, categorization of related ideas, and comparison and integration between the quantitative and the qualitative findings had beenconducted to create rich items for discussion and representation.

3.7.3 Pilot study:

The researcher has collected data from 30 physical therapists then performing the analysis to ensure appropriateness level of study instruments, and to check if there are errors appears when answering the questionnaires.

3.8 Study limitations:

Group of limitation were facing the researcher in conducting this study as follow:

- Questionnaire respondents were selected conveniently, since the researcher couldn`t find resource that has list of eligible respondents, so he can follow simple random sample technique.
- The researcher faced limited number of available references regarding physical therapy research in Middle East.
- Difficulties to reach those un-employed PTs since most is not working in a full time basis, besides part of eligible study sample were having their annual leaves which make it difficult to communicate them.

3.9 Ethical Consideration:

The researcher obtained ethical approval from School of public health and the Palestinian health research council to proceed in conduct this studyannex (3).

Chapter 4

Study Main Results and Discussion:

This chapter outlinesresults of data analysis, order of results includes frequencies of demographic data, result of inferential statistics and researcher overall comments on results.

4.1 Demographic Data:

Demographic information shown below in (Table4.1)illustrates characteristics of244 PTfrom all Gaza governorates, (51.2 % M, 48.8% F). Moreover, the mean age of study respondents is **31.1** years in which the results recorded that near half of study sample were at age of 30 years or less, 45.1% are at the age of 31 to 45 years while the rest are more than 45 years old.

Moreover,the table shows that 43.4% of PTs are living in Gaza city, followed by those living in north area by 21.7%, Middle area 15.2%, and Khanyonis13.1% and Rafah at the bottom list by6.6%.

With regard to the level of education,the results showed different levels of PT educational degrees, where93 % of study sample are holding bachelor degree in PT, followed by master degree holdersby 6.1% and doctorate degree were only 2 persons by total 0.8%.

Additionally, the majority of master and doctorate degree holders are having specialties of Musculoskeletal, Cardiopulmonary, neurology and geriatric, nevertheless, study results indicated that 20% of study sample had obtained PT diploma before attaining their bachelor degree.

In Gaza, there is only 2 bachelor PTprograms at 2 different universities, in which both programs provide upgrading option for PTAs, as they should have a cumulative average of 75% to be eligible for upgrading(MoEHE, 2017). However, based on physical therapy

education system, diploma degree holders can benefit from number of credit hours before accepting them in bachelor degree. and there are no PT post graduate education programs (Master/ Doctorate) in Palestine, therefore, number of PT master and doctorate holder is limited. In addition to that fees of PT graduate studies are not affordable for the majority of PTs in Gaza.

Regarding the PTs graduation place, (Table 4.1) shows that 80.7% of study sample had fulfilled their bachelor degree from Al-AzharUniversity in Gaza, followed by Islamic university by 12.3%, while only 7 % of PTs had graduated from other universities.

PT department in Islamic university that had started in 2013, while the PT department in Al-Azhar university has started in 1998 and has had a graduate average of 50 PT per yearsince that time (University, 2018),the PT department at the Islamic university celebrated the first group of 50 graduates in 2017therefore, the majority of PTs had graduated from Al-Azhar.

On the other hand, (Table 4.1) indicates that near 90% of study sample did notattain any PT subspecialty after fulfilling their bachelor degree, and practices of those graduatesremains general at all of PT fields.

Moreover, both departments do not have PT subspecialtiesamong their study plans(MoEHE, 2018), which means that all of PT studentwere not able to join any of PT subspecialties during their study. Adding to this, both programs are lacking of essential resources that enable PTs to determine where they want to proceed(i.e. PT clinics),whichhinder the capability of educational staff to encouraging PTs for subspecialties.

This results were different than demographic distribution for (Jette et al., 2003) study that indicated 67.2% of participants were females, and 42.2 were master degree holder.

Table (4. 1) Distribution of the study participants according to their socio demographic information

Variable		Frequency	Percent
Sex	Male	125	51.2%
	Female	119	48.8%
Location	North Gaza	53	21.7%
	Gaza city	106	43.4%
	Middle area	37	15.2%
	Khan Yonis	32	13.1%
	Rafah	16	6.6%
Age	30 or less	124	50.8%
	31 - 45	110	45.1%
	More than 45	10	4.1%
Level of education	Bachelor	227	93.0%
	Master	15	6.1%
	PhD	2	.8%
Diploma Before Bachelor	Yes	49	20.1%
	No	195	79.9%
University	Azhar	197	80.7%
	Islamic	30	12.3%
	Other	17	7.0%
Bachelor specialization	Yes	26	10.7%
	No	218	89.3%

Professional profile for PTs was one of main items that has been assessed through the self-administered questionnaire.Hereafterat (Table 4.2)the study resultsshowedplace that study sample work in. The largest PTs group were found to work at the non-governmental organizations by 42.2%, followed by those working at ministry of health by 32%, then those at private sector by 21.7%, and the lowest percentage has been noticed in UNRWA by only 4.1%.

The ministry of health considers as the major health care provider in Gaza strip, near 100 PT is working within its 12 health care centers. Furthermore, in 2016 the MoHannual report recorded more than 108,207 session to 21,282 patient which consider the largest recorded number of PT session in Gaza (MOH, 2016).

Regarding number of years that study respondents spent in practicing PT, the study results indicated **9.1** years as a mean average foryears of experience per PT (minimum 0 years and maximum of 31 years), however, the number indicated that the majority of PTs in Gaza are senior PTs, and they are having high level of experience in PT practice.

Nevertheless, the results indicated that 58.2% of study respondents said that they usually work with 5 to 12 patient per day, followed 26.1% whom workwith less than or equal 5 patients per dayand 15.6% said that they usually work 12 PT session per day.

Regarding session duration, (Table 4.2) indicated that 45.9% of PTs spend from 30 to 45 minutesper PTsession, furthermore, 38.5% of PTs work more than 45 minutes per session, and only 15.6% said that their sessions duration last less than 30 minutes per each patient.The number of patientsseen by therapist is normally affects duration of each session, as the more number of patients per PT the shorter the session is.

PT can work at some days average of 15 patients per day in 6.5 working hours, which result in less than 30 minutes per patient, therefore, the quality of intervention could be affected by less as if the session last for 45 minutes for example.

Regarding positions of PTs, the results indicated that the vast majority of study participants are working as a full time basis by 83.6%, of them, 72.1% said that they donot work private cases after their work while 27.9% do.

Salary cuts and difficult economic situation in Gaza pushedmany PTs to work at private practice after their official work to gain some financial resources. It is worthy to mention that there is no regulatory body that takes the responsibility to manage PT private practicein Palestine, additionally there is no information on level of private PTpractice among PTs in Palestine, neither the local PT association nor MoH conducted any of screening studies to recorded number of PTs working the private sector and to collect information on them.

On the other hand, study results indicated that 68.6% of PTs are working at places which has less than 5 PTs, followed by 26.1% of PTs whom perceived they work at place which includes 6 to 10 PTs, while the rest said that they work in places that has more than 10 PTs.

In the ministry of health, 103 PT work at 14 primary health care clinic and main hospital, with an average of 7 PTs per each location(MOH, 2016).

Table (4. 2): Distribution of the study participants according to their work information

Variable		**Mean**	**Frequency**	**%**
Years of experience	≤ 5 years	9.1	75	30.7%
	5.1 -10years		88	36.1%
	More than 10years		81	33.2%
Employer	MOH	-	78	32.0%
	UNRWA	-	10	4.1%
	NGO	-	103	42.2%
	Private sector	-	53	21.7%
Attendance	Full time	-	204	83.6%

	Part time	-	40	16.4%
Average patients number	>5 patients	7.6	64	26.2%
	5- 12		142	58.2%
	More than 12		38	15.6%
Session duration (minutes)	≤ 30	37	38	15.6%
	31 - 45		112	45.9%
	More than 45		94	38.5%
Average number PTs	≤ 5 PTs	7.1	165	67.6%
	6- 10 PTs		63	25.8%
	More than 10 PTs		16	6.6 %
Work in PT Private sector	Yes	-	68	27.9 %
	No	-	176	72.1 %

In Gaza strip, PTs face variety of cases during their daily practice, the results in(Table 4.3) indicated that the majority of PT work with Orthopedic cases, which came at top of patient list seen byPTs by 47.9%, followed by Neurologic cases by 47.1%, thenPediatric cases by 34%, Cardiorespiratory by 18.8%, Geriatric by 11% and at end of list the sports cases by only 8.6%.

Although that PT education in Gaza has no sub-specialty, the vast majority of cases managed most of PTs are facing orthopedic and neurological cases since many body impairments are in the musculoskeletal and neurological system. However, Gaza still facing frequent conflict intervals that result in lots of musculoskeletal and neurological injuries.

The results are consistent with (Jette et al., 2003) results which indicated that Orthopedic cases are the most seen type of cases among PTs by 68.5% followed by neurological cases by 20.2%.

Table (4. 3): Common cases seen by PTs

Variable	Factor	Number	%
Common Cases seen by PTs	Orthopedic	117	47.9%
	Neurologic	115	47.1%
	Pediatric < 12 Years	83	34%
	Cardiorespiratory	46	18.8%
	Geriatric > 65 Years	27	11%
	Sports	21	8.6%

Number of PT articles that each PT read per month:

Study respondents perceived different levels regarding the number of PT articles they read per month,usually PTs read PT articles and research findings in order to improve their knowledge on best PT interventions. PTs were asked to estimatethe number of articles they usually read per month through marking checklist, to that end, (Table 4.4) showed thatnear half of PTs read 2-5 articles per month, 39.3% of them read one article, 8.6% themread 6-10 articles and only 1.2% read more than 10 articles per month.

In the sense of absence of experimental research at level of PT education and practice in Gaza, PT practice still dependent on basic education the therapist received during their years of education. Moreover, it has been noticed that PT curriculum are lacking learning outcomes that focus on skills of search and apprising PT research results. This expected to be one of major challenges against EBPT development in Gaza.

Table (4. 4): Number of physical therapy articles read by therapist per month

Variable	Factor	Number	Percentage
The number of read PT Articles by PT Per Month	2-5 articles	124	51%
	1 article	96	39%
	6-10 Articles	21	9%
	More than 10 articles	3	1%

The therapists were requested to check the major PT search engines at their work place, and whether they can access to those engines from their work place, (Figure 4.1) illustrates the possibility to access to PT research search enginesf work place, in thisregard, the results showed that54% of PTs had perceived that they can access to PT research search engine from their work places, while the rest cannot.

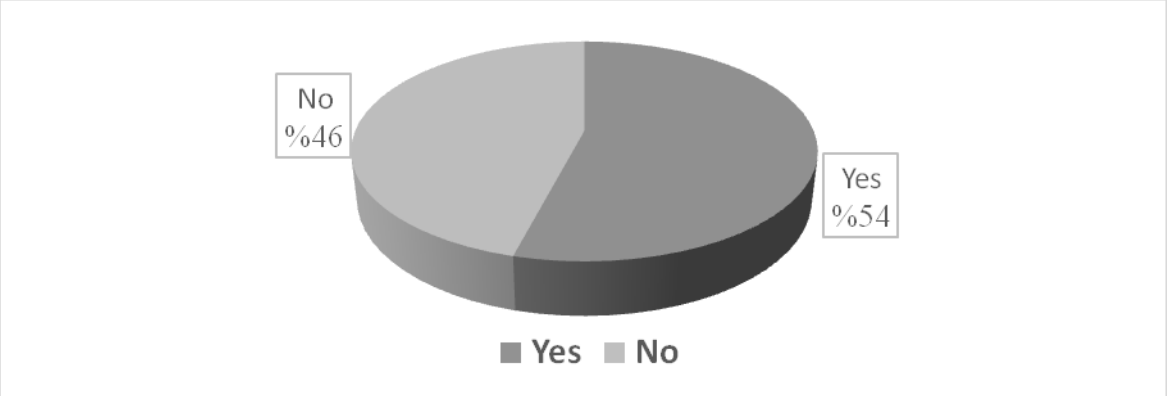

Figure (4. 1): Can you access to physical therapy search engine from your workplace

(Table4.5) indicated that79.9% of therapist usedgoogle as a PT search engine to approach PT articles, 23.3% are usingPhysiopediasearch engine, 20% are using Pedro search engine, 15.1% are using APTA search engine, 9% are using PubMed, 2.8% are using up-to-date search engine and only 1.2% are using Cochrane search engine.

Pedro, Physiopedia and Pubmed consider as the most known PT search engine in the world, while Pedro and Physiopedia are specialized in PT field. However, although PTs had marked Google as their first search engine, it is not considered as specialized search

engine for any for PTs, as it lacks for example the rating of evidence for each title. On the other hand, some search engine requires paying fees to log in and start looking for evidence, in which this option might not be affordable to lots of PTs in Gaza.

Table (4. 5): Common PT search engines used by therapists

Variable	Factor	Number	Percentage
Common Search engine used by PTs	**Google**	**195**	**79.9%**
	Physiopedia	**57**	**23.3%**
	PEdro	**49**	**20%**
	APTA	**37**	**15.1%**
	Pubmed	**22**	**9%**
	Up to date	**7**	**2.8%**
	Cochrane	**3**	**1.2%**

Use of EBPT in decision making

In this part of the results, (Table 4.6) indicates the how many times dose each PT use EBPT in making clinical decisions in order to use best PT intervention.The results of this section indicated thatnear half of therapists had usedEBPT onceper month, 43.9% used it 2-5 times per month, 4.5% used it 6-10 times and only1.2% said that they use EBPT in their decision making process more than 10 times per month.

Lack of awareness of EBPT techniques might limited utilizing EBPT in decision making process, another factors such as passive attitudes of PTs may hinder this type of utilization, but most importantly, the lack of policies that encourage PTs to use best evidence in making their decision of best practices push the therapists away from this practice, and leaves the space to personal experience and "known techniques" to influence decision of intervention plans.

Table (4. 6): Use of EBPT in decision making

	Times	Number of PTs	Percentage
How many times do the therapist use Evidence in Decision Making	1 time per month	123	50.4%
	2-5 times per month	107	43.9%
	6-10 times per month	11	4.5%
	More than 10 times per month	3	1.2%

On the other hand, there is noticeable shortage regarding EBPT training in Gaza, as (Figure4.2) indicated, only 29% of therapists had received EBPT training during their career from several training agencies, while the rest did not receive any.However, for those who received EBPT training, the majority of them had received EBPT training by the Palestinian physical therapy association in different occasions.

Training of EBPT should be conducted by accredited agency that own PT specialty, where such training agencies is not exist in Gaza. Furthermore, the limitation of conducting training needs assessment for PTs contribute to keep blurred vision on what are the most competencies thatPTsneed to improve their quality of care.

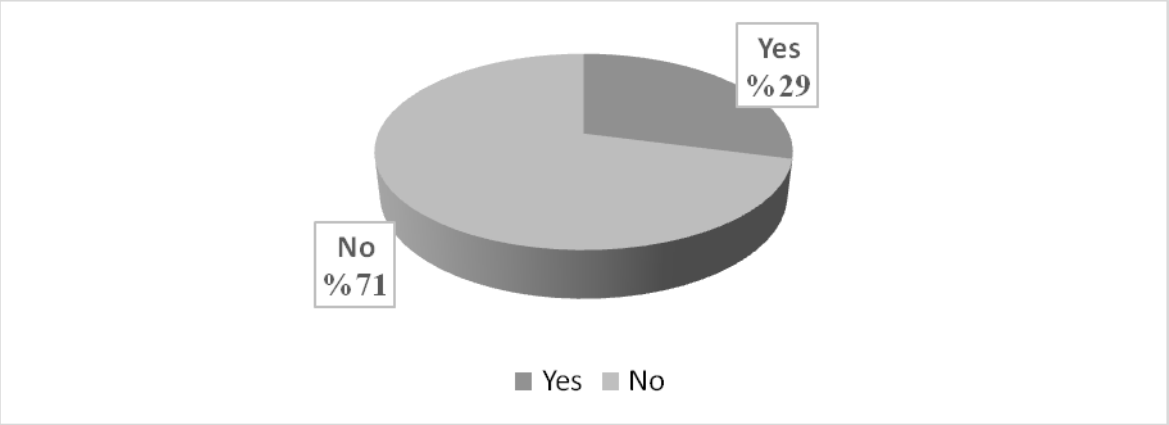

Figure (4. 2): Received EBPT training

Daily Tasks PT during his/her working day:

PTs were asked to estimate the time they spent in patient treatment, PT research and training of other PTs during a working week, (Table4.7)indicated that the majority of therapists spendmost of their time in treating patients, as 45.1% of PTs perceived that they spend more than 80% of their working time in treating patients, while only 3.7% spend the same percentage of their weekly time in training other PTs, and only 0.4% of them spend more than 80% of their time in doing PT research. Which is the least performed activity by PTs during the working week.

PT dedicate most of their time in treating patients, at least this is the reasons why they were hired, however, the low percentage of applying research technique uncovered the low interest of PTs in this research and the limited supportby PT employers in applying research at locations where PTs work.

Table (4. 7): percentage of time spent in patient care, PT research and training of other PTs

Activity	Less than 50% of PT working hours		50 - 60 % of PT working hours		61 – 80% of PT working hours		More than 81% of PT working hours	
	Count	%	Count	%	Count	%	Count	%
Patient care	58	23.8%	17	7.0%	59	24.2%	110	45.1%
Physiotherapy Research	235	96.3%	5	2.0%	3	1.2%	1	0.4%
Training of other PTs	223	91.4%	6	2.5%	6	2.5%	9	3.7%

Treatment protocols has been always considering as a challenge in front of EBPT practice, (Figure 4.3) illustrated that67% of PTs perceived that their employers havePT intervention protocols and they use it on daily basis, while around half of them said that their employers usually do regular updates for those protocols. Additionally, 63 % confirmed that their employers are doing regular follow up for the work done by PTs.

The use of rehabilitation protocols in PT continues to become common practice, at some PT service providers, PT protocols isobligatory forPTs, for example at UNRWA clinics, where PTs are instructed to follow protocols in determining the best care possible to patient with low space of searching for best evidence.

However, some PT service providers encourage PTs to seek best evidence for intervention, and there are no specific protocols made for treatment, for example at some non-governmental organizations and private clinics, in which the therapist find space to explore best evidence to apply best possible care.

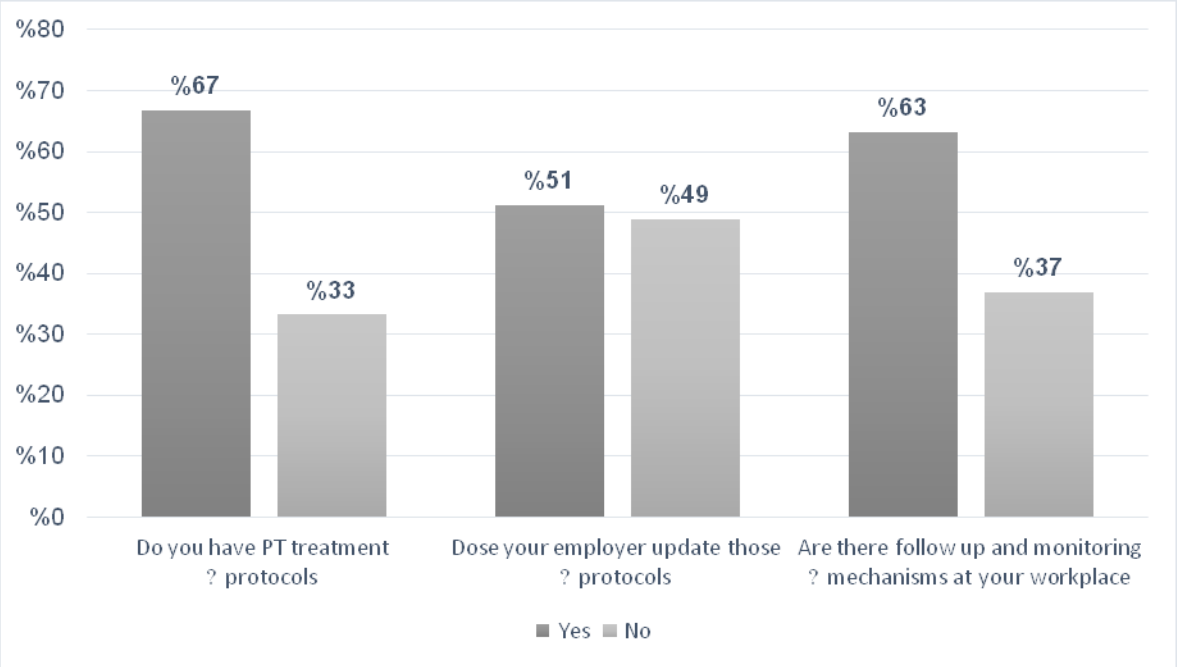

Figure (4. 3): Treatment protocols and following up PTs

4.2 PTs Perception regarding EBPT enabling environmentat their workplace:

In this section, PTs were asked to perceive their level of their agreement regarding the efforts paid by PT their employers in term of providingsufficient EBPT environment at their workplace, (Table 4.8) illustraterespondent'sviews in this regard.

In this part,the results indicated cumulative agreementpercentage of 60.9% (mean =3.0), which reflects moderate measures taken by PT employers in term of providing EBPT enabling environment from study respondents point of view.

In particular, it has been noticed that statement 5 in that section (Supervisors provide support to PTs in term of providing EBPT to patients) has rerecorded the highest score by cumulative average of 67.5% (mean = 3.4), followed by statement 1 (Your workplace equipped by computers\laptops with internet connection) by average 65.2%, (mean = 3.3).Nevertheless, statement 6 (Your employer offers the PTs training session on EBPT) scored the average of 58%, (mean = 2.9), and statement 4 (Your workplace equipped by library (E-books and text books) scored the lowest percentage by 52%(mean = 2.6).

The researcher comments on above results by that most of PT service providers at both governmental and non-governmental sectors are having limited resources to enhance EBPT practice, in particular, low or lack of budgets contribute in limited EBPTenvironment.in addition to limited time and lack of technical support provided to PTs, which are influencing the EBPT environment to practice.

Furthermore, the majority of PT service providers do not have a continues education programs as a tool for self-development for their employees.

Health care system in Gazastill facing many different challenges, one of them related to limited financial means allocated to improving competencies and skills of medical personnel, which result in low quality of care providedto patient by them. For example, in the MoHthere is gap in training programs for PTs, where EBPT is one of core competencies that need additional support to build the therapist capacity in applying best possible care.

PT departments equipment, building PT library, providing free access to PT search engines, training of PTs are all sorts of support that enable PTs to practice EBPT, and apparently most of those means are either are limited or absent.

Furthermore, the results of interviewing one leader of PT academic program concluded that PT students are not receiving some administrative skills on howto develop EBPT competency, evermore, how to install it up at certain place. This result in less preparedness of PT clinics to have encouraging environment to practice EBPT,

Guidance of PT clinical instructors and supervisors is crucial in supporting PTs to practice EBPT, however, this practice definitely will fluctuate based on instructors' level of knowledge, experience and dedication with regard of EBPT competency.

Table (4. 8): Enabling environment of EBPT at workplace

	Strongly disagree		**Disagree**		**Neutral**		**Agree**		**Strongly Agree**		**Overall**	
	No.	%	No.	.%	No.	%	No.	%	No.	%	Mean	%
1. Your workplace equipped by computers\laptops with internet connection	58	23.8	35	14.3	13	5.3	61	25	77	31.6	3.26	65.2
2. Laptops\computers are available to all PTs at your department	55	22.5	47	19.3	14	5.7	64	26.2	64	26.2	3.14	62.9
3. Your provider specify time and space for PTs to use PT search engines	58	23.8	50	20.5	24	9.8	66	27	46	18.9	2.97	59.3
4. Your workplace equipped by library (E-books and text books)	64	26.2	72	29.5	27	11.1	56	23	25	10.2	2.61	52.3
5. Supervisors provide support to PTs in term of EBPT practice	20	8.2	39	16.0	53	21.7	93	38.1	39	16	3.38	67.5
6. Your employer offers the PTs training session on EBPT	27	11.1	75	30.7	56	23.0	61	25.0	25	10.2	2.93	58.5
	Average										**3**	**60.9**

4.3 PTsKnowledge regarding EBPT:

PTs Knowledge by EBPT principles is main section the study aimed to explore, since it considers as one of pillars for effective EBPT implementation. At this part ofresults, (Table 4.9) shows PTs perceptions on their knowledge by EBPT principles.In this regard, the results indicated a total cumulative percentage of 68.6% (mean =3.4), which reflects moderate EBPT knowledge among PTs.

The results shown below indicatesthat the majority of PTsagree on accurate EBPT definition, for example,statement 10(EBPT defined as " the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients)and statement 11 (EBPT is composed of "Best research evidence, patient preferences and therapist expertise") whichhad scored percentage of 81% and (mean = 4), in which such results reflectshigh level of understanding of EBPT principles.

Nevertheless, statements 7 (EBPT is not only about updating information via e-resources) has scored 76% (mean = 3.8), in addition to statement 8(EBPT replaces clinical expertise by research evidence) which had scored 62% (mean of 3.1). Where this is consistent with the fact that clinical expertise is not replaced in EBPT practice, but consider as one of the 3 main pillars of EBPT(APTA, 2011).

In addition, statement 21 (EBPT helps me to identify priorities in patient care) had scored 78% (mean = 3.1), in which it can be concluded that PTs are well aware about benefits of EBPT.Moreover, in the same Table, the study results indicatedpercentforstatement 17 (I have the ability to determine how useful "clinically applicable" the material is) by 70% (mean = 3.5), and statement 18 (I have the knowledge to check the validity of data I collect from search engines)by68%(mean = 3.4), where both statements reflect moderate level of knowledge on how to appraise the evidence that is collectedfrom resources, and how PTs can assess the data they collect in term of validity and reliability.

On the other hand, the results showed high knowledge of study participants regarding IT search techniques, as statement 14(my IT skills are good enough for me to seek evidence via physiotherapy search engines) scored of cumulative percentage of 78% (mean = 3.9), and statement 16 (I can find data that I need from PT search engines) by cumulative percentage of 72%(mean = 3.6).

Although that interview results with head of PTdepartment at one of local universities indicated no specific education procedure for EBPT at the education plan, PTs showed high understanding of EBPTprinciples.

Additionally, the majority of them are having the capability to use PT search engines and other web-based techniques to approach best evidence. This could be a result of limited job opportunities among PTs, especially those at young age"22- 30 Yrs", which such shortage of job vacancies leads to more self-learning efforts by PTs for the sake of possessing more personal and technical competenciesthat allow them to compete in the labour market.

Additionally, PTs are facing different types of cases on daily basis that requires different intervention techniques which can be another motive for them to seek evidence for best care.

The results of this section are consistent with (Jette et al., 2003) study that pointed to 70% of PTs can use online resources to find PT research results and the study conducted by(Yahui & Swaminathan, 2017).

The study results was inconsistent with study (Ramírez-Vélez, Bagur-Calafat, Correa-Bautista, & Girabent, 2015)that hadindicated 50% as cumulative average of PTs knowledge regarding EBPT.

Table (4. 9): Distribution of the study participants according to their responses about Knowledge of EBPT

	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree		Overall	
	No.	%	No.	.%	No.	%	No.	%	No.	%	Mean	%
7. EBPT practice do not mean reading PT articles as much as the therapist can afford	4	1.6	27	11.1	29	11.9	138	56.6	46	18.9	3.80	76%
8. EBPT replaces clinical expertise by research evidence	8	3.3	71	29.1	62	25.4	83	34.0	20	8.2	3.15	63%
9. EBPT is only about updating information via e-resources	5	2.0	19	7.8	36	14.8	150	61.5	34	13.9%	3.77	75%
10. EBPT defined as " the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients"	3	1.2	8	3.3	34	13.0	128	52.5	71	29.1	4.05	81%
11. EBPT is composed of "Best research evidence, patient preferences and therapist expertise".	6	2.5	15	6.1	23	9.4	121	49.6	79	32.4	4.03	81%
12. Well-known PT interventions which is proven to be effective are never subjected to updates or modifications	5	2.0	28	11.5	30	12.1	133	54.5	48	19.7	2.2	44%
13. I learned the foundations for EBPT during my academic years	32	13.1	62	25.4	43	17.6	82	33.6	25	10.2%	3.02	60%
14. My IT skills are good enough for me to seek evidence via physiotherapy search engines	7	2.9	9	3.7	47	19.3	126	51.6	55	22.5	3.87	77%
15. I`m well Aware by major data types and sources	7	2.9	38	15.6	74	30.3	99	40.6	26	10.7	3.41	68%
16. I can find data that I need from PT search engines	11	4.5	22	9.0	43	17.6	139	57.0	29	11.9	3.63	73%
17. I have the Ability to determine how useful (clinically applicable) the material is	11	4.5	34	13.9	61	25.0	109	44.7	29	11.9	3.45	69%
18. I have the knowledge to check the validity of data I collect from search engines	7	2.9	34	13.9	67	27.5	116	47.5	20	8.2	3.44	69%
19. I have the knowledge regarding search strategies to find PT research conclusions and results.	8	3.3	40	16.4	65	26.6	114	46.7	17	7	3.38	68%
20. EBPT don`t take in consideration patient preferences	5	2.0	8	3.3	30	12.3	155	63.5	46	18.9	3.94	79%
21. EBPT helps to identify priorities in patient care	14	5.7	45	18.4	55	22.5	25	10.2	105	43.0	2.6	52%
22. I have the knowledge on how to use medical search engines (i.e. Pubmed, Pedro)	32	13.1	43	17.6	59	24.2	80	32.8	30	12.3	3.14	63%
Average											3.4	68.6%

4.4 PT Attitudes towards EBPT:

At this part, the results explored PTsperception on their own attitudes towards EBPT, as mentioned in(Table 4.10) below, the results recorded acumulative percentage of 74% (mean = 3.7) which reflects positive attitudes towardsEBPT among Pts.

Statements23, 24 and 34 (Application of EBPT is crucial to apply best patient care), (Adoption of EBPT improves the reputation of Physical therapist) and (I need to improve skills needed to improve my EBPT) had reported the highest score by 84%, (mean = 4.2), in which those results pointed to high recognition of EBPT by PTs as one of essential PT competencies.

Additionally,statement 33 (Literature and research findings help improve patient care)and statement 35 (It is necessary to perform regular evaluation for myself, either by myself or by my supervisor in order to assess the gaps on my work) had scored the same cumulative percentage of 82%(mean = 4.2), in which both indicated PTs positive attitudes towards EBPT.

Statement 28 (The adoption of EBPT is a waste of time and places unreasonable demand on physical therapists) scored disagreement among study sample cumulative percentage of 39%, (mean = 1.9) which ensure positive attitudes by PTs.

Moreover, the results indicated that PTs perceived their interest to practice EBPT through statement 30 (I am interested in using EBPT in my daily practice) percentage of 78%, (mean = 3.9).Many results were consistent with this study in term ofpositive PTs attitudes towards EBPT such as (. Alshehri, Alalawi, Alhasan, & Stokes, 2017) which showed 90% as a level of positive attitudes towards EBPT in Saudi Arabia, and the results of (Fujimoto et al., 2017) that PTs reported positive attitudes towards EBPT by cumulative average of 83.3%.

The results are consistent with earlier results regarding knowledge by EBPT principles. However, the majority of PTs in Gaza are willing to advance their management techniques to offer best care to their patients, even if they don`t know how to do this, they still convinced by the positive results that EBPT make.

Table(4. 10): Distribution of the study participants according to their responses about PT attitudes regarding EBPT

	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree		Overall	
	No.	%	No.	.%	No.	%	No.	%	No.	%	Mean	%
23. Application of EBPT is crucial to apply best patient care	4	1.6	4	1.6	12	4.9	132	54.1	92	37.7	4.2	85%
24. Adoption of EBPT improves the reputation of Physical therapist	0	0.0	7	2.9	17	7.0	133	54.5	87	35.7	4.2	85%
25. My workload is too great for me to keep up to date with all the new evidence	36	14.8	87	35	72	29.5	47	19.3	2	.8	3.44	69%
26. EBPT should be an integral part of clinical practice.	3	1.2	11	4.5	19	7.8	139	57	72	29.5	4	82%
27. Previous clinical experience is more important than research findings in choosing the best treatment available for a patient.	11	4.5	81	33.2	87	35.7	50	20.5	15	6.1	2.9	58%
28. The adoption of EBPT is a waste of time and places unreasonable demand on physical therapists	4	1.6	16	6.6	20	8.2	130	53.3	74	30.3	1.9	39%
29. I stick to tried and trusted methods rather than changing to anything new	22	9.0	82	33.6	72	29.5	56	23.0	12	4.9	2.8	56%
30. I am interested in using EBPT in my daily practice	3	1.2	10	4.1	56	23.0	124	50.8	51	20.9	3.8	77%
31. Evidence-based Practice helps me make decision about patient care	6	2.5	18	7.4	21	8.6	145	59.4	54	22.1	3.9	78%
32. I am interested in attending courses relating to EBP	5	2.0	13	5.3	31	12.7	124	50.8	71	29.1	4	80%
33. Literature and research findings help improve patient care	1	.4	10	4.1	25	10.2	141	57.8	67	27.5	4	82%
34. I need to improve skills needed to improve my EBPT	3	1.2	7	2.9	12	4.9	134	54.9	88	36.1	4.2	84%
35. It is necessary to perform regular evaluation for myself, either by me or by my supervisor in order to assess the gaps on my work	5	2.0	8	3.3	25	10.2	130	53.3	76	31.1	4	82%
	Overall										3.68	74%

4.5 PT perception on EBPT Practice:

At this part, study respondents recorded overall agreement of73% (Mean = 3.6) regarding EBPT practice at their work places, which indicated a high EBPT practice among PTs from their point of view, as (Table 4.11) indicated, statements 42 (Whenever I find results for any problem I searched for, I do integrate it with my experience and patient preferences to guide the patient into best quality of care), 41 (I used to share PT information with my colleagues) and 36 (I have the knowledge on how to turn patient problem into researchable question)hadscoreda cumulative agreement percent of 78%, 79% and 77% respectively, followed by statement 37 (I used to track down the relevant evidence once i have formulated the question) which had scored 76% (mean = 3.8). In which all of those statements indicated high EBPT practice level among study respondents. Having said that, statement 38 (I used to search for scientific papers, articles and research findings which I need from my work location) scored the lowest percentage among practice section of the questionnaire by 66%, (mean = 3.3).

Statements were formulated clear enough to have consistent feedback on level of EBPT practice, in that sense, study respondents believe that they apply EBPT at places they work at, although the majority of PT departments and clinics lacks encouraging EBPT environment, PTs seems to develop this competency by themselves.

Those results are consistent with (Yahui & Swaminathan, 2017) and (Alshehri, Alalawi, Alhasan, & Stokes, 2017) results, in which both studies indicated high EBPT practice among PTs.

Table (4. 11): Distribution of the study participants according to their responses about EBPT practice

	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree		Overall	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Mean	%
36. I have the knowledge on how to turn patient problem into researchable question	5	2	16	6.6	30	12.3	151	61.9	42	17.2	3.86	77%
37. I used to track down the relevant evidence once i have formulated the question	7	2.9	15	6.1	33	13.5	149	61.1	40	16.4	3.82	76%
38. I used to search for scientific papers, articles and research findings which I need from my work location	25	10.2	41	16.8	59	24.2	86	35.2	33	13.5	3.25	65%
39. I used to apply techniques I found in my research on patient problem	9	3.7	32	13.1	59	24.2	124	50.8	20	8.2	3.47	69%
40. I used to evaluate my research findings based on pre identified criteria	6	2.5	41	16.8	76	31.1	95	38.9	26	10.7	3.39	68%
41. I used to share PT information with my colleagues	4	1.6	14	5.7	29	11.9	146	59.8	51	20.9	3.93	79%
42. Whenever I find results for any problem I searched for, I do integrate it with my experience and patient preferences to guide the patient into best quality of care	11	4.5	11	4.5	23	9.4	142	58.2	57	23.4	3.91	78%
	Overall										3.66	73%

4.6 PTs perception on EBPT Barriers:

At this part of the questionnaire, the researcher suggested 12 barriers which influence EBPT practice from his point of view, then after, PTs were asked to set a weight in front of each barrier based on scale "0" through "4", where 0 points to being not a barrier to 4 as a major barrier.

As (Table 4.12) indicates, study participants recorded "Insufficient time, Poor ability to critically appraise the literature and lack of understanding statistical analysis" as the top EBPT barriers by average of 88.1%, 86.1% and 85.7% respectively, while they perceived " Understanding of English and language barriers " as the lowest EBPT barrier by 63.1%.

On the other hand, frequency analysis in (Figure 4.1) indicated perception of PTs to consider Insufficient time and lack of understanding statistical analysis as the strongest barriers standing in front of applying EBPT.The study results were consistent with (Maigeh, 2003) in identifying limited time as main barrier to EBPT, having said that, results of (Alshehri, Alalawi, Alhasan, & Stokes, 2017)study were inconsistent with this study by mentioning lack of time as the least perceived barrier by PTs in Saudi Arabia.

Those results are consistent with the results concluded from an interview with head of PT department at local university in Gaza, which pointed to the fact that there is lack of EBPT modules at PT study plans, which leaves the students with limited knowledge of basics EBPT like research skills and interpretation of statistical analysis.

Furthermore, the majority of PTs perceived limited time that they have during normal working day, as they are busy for the most of the day in managing patients and performing related activities. Which leaves no time for seeking evidence for best PT interventions.

Table (4. 12):Barriers to practice EBPT

	Not a Barrier		Barrier	
	Count	%	Count	%
1) Insufficient time	29	11.9%	215	88.1%
2) Poor ability to critically appraise the literature	34	13.9%	210	86.1%
3) lack of understanding statistical analysis	35	14.3%	209	85.7%
4) Inability to apply research findings to individual patient with unique characteristics	39	16.0%	205	84.0%
5) lack of support from my supervisor	42	17.2%	202	82.8%
6) Lack the awareness and knowledge on how to practice EBPT	46	18.9%	198	81.1%
7) Lack of information resources	56	23.0%	188	77.0%
8) Lack of awareness of importance of EBPT	59	24.2%	185	75.8%
9) Inability to apply research findings in my patient population	66	27.0%	178	73.0%
10) Limited access to search engines	67	27.5%	177	72.5%
11) Commitment on intervention protocols	89	36.5%	155	63.5%
12) Understanding of English and language barriers	90	36.9%	154	63.1%

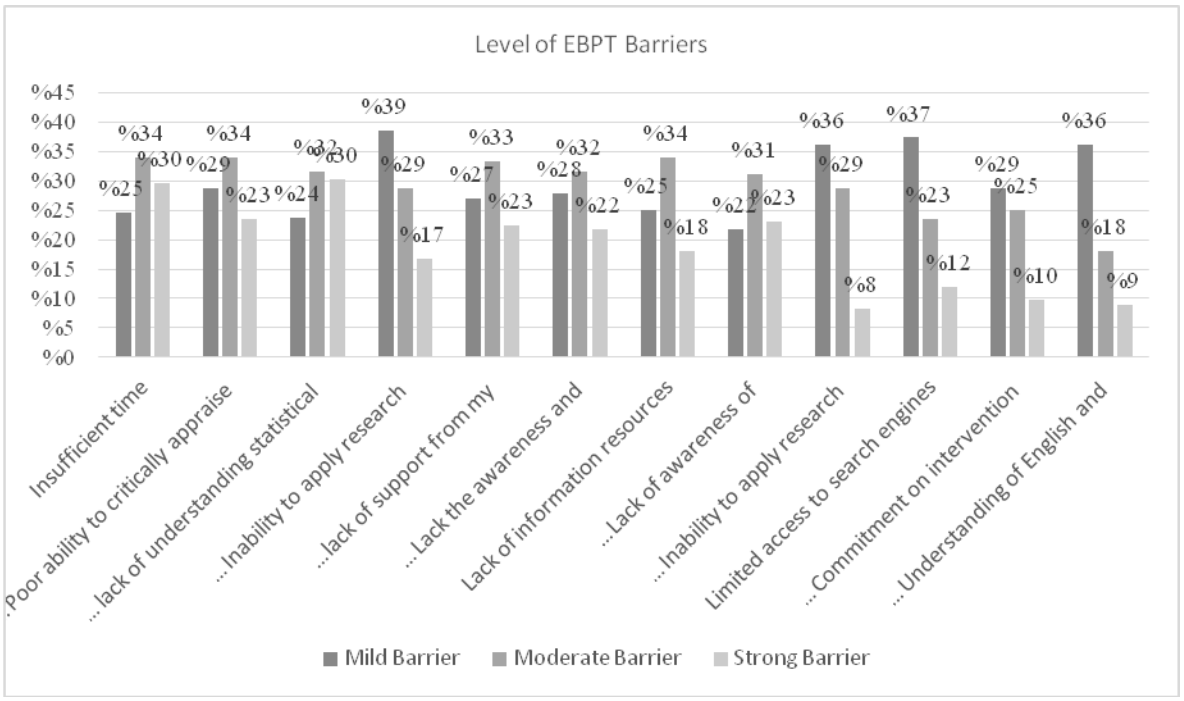

Figure 4.4: Level of EBPT barriers

4.7 Inferential statistics:

At this part of results section, the researcher worked to determine whether EBPT knowledge, attitude and practice among PTs are related to specific demographic characteristics wheret-test and one-way ANOVA statistical tests had been applied.

Relationship betweenEBPT knowledge, attitudes and practices and Gender, age and location characteristics:

In (Table4.13), results of independent t-test and one-way ANOVAindicates non-significant relationship between knowledge and gender of respondents, (P = .071), however, similar results were noticed by researcher regarding attitudes and practice of EBPT and gender of participants (p = .209) and (p = .968) respectively.

On the other hand, none of age groups indicated significant relationship with EBPT knowledge, attitudes and practices (p = 0.732). in this regard, the results were not

consistent with (Jette, 2003) and (Yahui & Swaminathan2017), in which both studies pointed to that younger generation tend to know more about EBPT, in contrary, the results were consistent with (Heiwe et al, 2011) which pointed to non-significant relationship between age groups and EBPT knowledge.

On the other hand, the results indicatednon-significant relationship between PTs attitudes and their practice regarding EBPT on one hand, and places where they live in on the other hand, (p = .634) for attitudes, and (p= .327) for practice. Although the one-way ANOVA test indicated significant relationship between PTs knowledge and location where they live (p= .031).TheScheffe post-hoctest indicated no significance. The vast majority of PTs from both sex had graduatedfrom entry-level programs at local educational institutes, which result in commonlevel of EBPT understanding and practice.

Table(4. 13): Difference in EBPT knowledge, attitude and practice overall score in relation to demographic characteristics

Gender		**Number**	**Mean**	**SD**	**Factor**	**Value**	**Sig.**
EBPT Knowledge	Male	125	3.5	0.5	t	1.814	.071
	Female	119	3.4				
EBPT Attitude	Male	125	3.7	0.4	t	1.260	.209
	Female	119	3.6				
EBPT Practice	Male	125	3.7	0.7	t	1.260	.968
	Female	119	3.7				
Age							
EBPT knowledge	30 Yrs and less	124	3.4	0.6	f	.312	0.732
	31 – 45 Yrs	110	3.4	0.4			
	More than 45yrs	10	3.5	0.4			
EBPT Attitudes	30 Yrs and less	124	3.7	0.5	f	.596	0.552
	31 – 45 Yrs	110	3.7	0.3			
	More than 45yrs	10	3.8	0.3			
EBPT practice	30 Yrs and less	124	3.6	0.8	f	.772	0.463
	31 – 45 Yrs	110	3.7	0.6			
	More than 45yrs	10	3.8	0.6			
Location							
EBPT knowledge	North Gaza	53	3.3	0.6	f	2.707	.031 *
	Gaza city	106	3.5	0.5			

	Middle area	37	3.5	0.4			
	Khanyonis	32	3.4	0.5			
	Rafah	16	3.6	0.6			
EBPT Attitudes	North Gaza	53	3.8	0.5	f	1.164	.327
	Gaza city	106	3.7	0.4			
	Middle area	37	3.7				
	Khanyonis	32	3.6				
	Rafah	16	3.7	0.3			
EBPT practice	North Gaza	53	3.6	0.7	f	.641	.634
	Gaza city	106	3.6	0.6			
	Middle area	37	3.8	0.7			
	Khanyonis	32	3.7	0.8			
	Rafah	16	3.7	0.5			

Educational Characteristics and EBPT knowledge, attitudes and practice:

Regarding educational degree, (Table 4.14) presents significant relationship regarding highest educational degree attained andEBPT practice (p=.039), but this is not the case for knowledge and attitudes, in which both showed non-statistical relationship. Furthermore, the Scheffe post-hoctest indicated that those holding Master degree are practicing more than those holdingPhD and Bachelor degrees.

Based on demographic information mentioned at early section of this chapter, 15 of master holders are working at different locations at the MoH, UNRWA and NGOs clinics and centers, where they can find more space to practice their interventions using EBPT, which is not the case for PhD holders whom work at academic institutions as lecturers.

The above mentioned findings are align with (Jette et al., 2003) and (Yahui &Swaminathan, 2017).

On the other hand, the results presents non statistical significance between EBPT knowledge, attitudes and practices from one hand and being graduated from diploma degree before fulfilling the bachelor on the other (P = .81 for knowledge, p= .25 for both attitudes and practice).

Moreover, both EBPT knowledge and practice found to have significant relationship with the graduation universities (p = .012 and p = .015 respectively), where the post hoc test did not show statistical relationship among group of variables.

Regarding PTs attitudes towards EBPT, the results indicated non-statistical relationship (p = .068) with location where PTs had graduated.

Last part of (Table 4.16) indicated statistical relationship with EBPT knowledge and having PT specialty (p= .013), mean = 2.6. Where those whom had PT specialization during their bachelor degree study are having more knowledge that those went for general PT practice.Having said that, this was not the case with EBPT attitudes and practice, as both showed non-statistical relationship regarding PT specialization.

Table (4. 14) PT education characteristics and EBPT knowledge, attitudes and practice

Educational Degree		Number	Mean	SD	Factor	Value	Sig.
EBPT knowledge	Bachelor	227	3.4	0.5	f	2.927	.055
	Master	15	3.7	0.5			
	Doctorate	2	3.5	0.2			
EBPT Attitudes	Bachelor	227	3.7	0.4	f	1.997	.138
	Master	15	3.9	0.3			
	Doctorate	2	3.7	0.1			
EBPT practice	Bachelor	227	3.6	0.7	f	3.293	.039 *
	Master	15	4.1	0.6			
	Doctorate	2	4.0	1.2			
Diploma prior to Bachelor							
EBPT knowledge	Yes	49	2.5		t	.371	.811
	No	195	2.5				
EBPT Attitudes	Yes	49	2.2		t	.937	.258
	No	195	2.3				
EBPT practice	Yes	49	2.3		t	.690	.257
	No	195	2.3				
University							
EBPT knowledge	Azhar	197	2.6	0.5	f	4.5	.012*
	Islamic	30	2.4	0.3			

	Other	17	2.3	0.5			
EBPT Attitudes	Azhar	197	2.3	0.4	f	2.7	.068
	Islamic	30	2.2	0.3			
	Other	17	2.1	0.3			
EBPT practice	Azhar	197	2.3	0.7	f	4.3	.015*
	Islamic	30	2.1	0.5			
	Other	17	2.0	0.6			
Bachelor specialization							
EBPT knowledge	Yes	26	2.6	.39	t	2.5	.013*
	No	218	2.4	.51			
EBPT Attitudes	Yes	26	2.7	.30	t	.87	.382
	No	218	2.6	.41			
EBPT practice	Yes	26	2.8	.55	t	1.223	.219
	No	218	2.6	.68			

PT experience and other professional characteristics:

With regard of PTs years of practice expertise, (Table 4.15) illustrated that more than 161 of PTs had 6 years or more of PT practice experience. Additionally,the result showed non-significant relationship between years of PT experience on one hand, and knowledge, attitudes and practice of EBPT on the other (P= .768) forknowledge(P=.443) for attitude and (P=.884) for practice.

The researcher comment by that EBPT is not considered as a mandatory competency for PTs at locationswhere PT service is provided, which result in low commitment to adopt this competency in their daily practice. The clinical experience considers as one of the three main pillars of EBPT where PTs can enhance their quality of care as their experience expanded.

Even though years of experience kept increased,no major change their behavior towards EBPT adoption unless a strong motivation pushes them to do so.

The results indicated that PTs knowledge, attitudes and practices regarding EBPT found to have non-significant relationship places the work in (P= .48) for attitudes, (P= .186) for Knowledge, and (P= .115) for EBPT practice. Those results are reasonable as the PT

working environment at service provision locationsare having lots of similarities to large extent, as long as there is lack of regulations that encourage PTs to practice EBPT, the level of such practice will remain at minimum level without any change.

Additionally, MoHand UNRWA are having treatment protocols that leave little space for PTs to search up to date evidence for the most effective interventionby themselves, in addition to limited time and other and resources with is core items in practicing EBPT.

This is not the case at non-governmental and private sectors, where resources are found to be more available and the environment of EBPT is more suitable for PTs to search for best evidence for intervention. However, the results at previous section of barriers part indicate variations in term of barriers prioritization, for example, at the MoH, PTs perceived lack of statistical results analysis interpretation and insufficient time as the top barriers they face when the practice EBPT, while those working at private sector identified the difficulty toapply this competency at places they work in as the top barrier to practice EBPT.

The results illustrated interesting relationship between EBPT and whether the PTs workon full or part time position, as the results indicated significant relationship between EBPT knowledge, attitudes and practices from one side, and the whether the PT work as afull time or part time basis.Results of the independent t-test indicated that full time position have more knowledge, positive attitudes and more practice than those working on part time basis (P= .014 for knowledge, P=.022for attitude, and P=.004for practice).

The researcher has an impression that full time PTs are more likely to witness diversity of PT cases than those working on part time, and that full time PTs had only one direction of their focus to improve their hand skills and other PT competencies.

However, as the results indicated earlier, the majority of PTs at MoH, UNRWA, and NGOs are working on full time basis, meaning having more access to large number of

cases, and having more time to develop their PTs competencies, furthermore, full time employees are usually having more commitment to PT practicethan those work on part time basis.

Those results are not linked to the fact that part time Pts probably have something else to focus on rather than updating their PT competencies which EBPT is one of them.

Table(4. 15): PT years of experience, workplace and position

Years of experience		Number	Mean	SD	Factor	Value	Significance
EBPT knowledge	≥ 5 Years	75	3.4	0.6	f	.264	.768
	6-10 years	88	3.5	0.5			
	>10 years	81	3.4	0.4			
EBPT Attitudes	≥ 5 Years	75	3.6	0.5	f	.816	.443
	6-10 years	88	3.7	0.4			
	>10 years	81	3.7	0.3			
EBPT practice	≥ 5 Years	75	3.7	0.7	f	.123	.884
	6-10 years	88	3.6	0.7			
	>10 years	81	3.7	0.6			
Workplace							
EBPT knowledge	MoH	78	3.5	0.4	f	1.6	.186
	UNRWA	10	3.3	0.4			

	NGO	103	3.5	0.4			
	Private sector	53	3.3	0.7			
EBPT Attitudes	MoH	78	3.8	0.3	f	2.7	.48
	UNRWA	10	3.8	0.3			
	NGO	103	3.7	0.3			
	Private sector	53	3.6	0.6			
EBPT practice	MoH	78	3.8	0.5	f	2.0	.115
	UNRWA	10	4.0	0.8			
	NGO	103	3.6	0.7			
	Private sector	53	3.5	0.9			
Position							
EBPT knowledge	Full time	204	3.5	0.5	t	2.48	.014*
	Part time	40	3.3	0.7			
EBPT Attitudes	Full time	204	3.7	0.4	t	2.31	.021*
	Part time	40	3.5	0.6			
EBPT practice	Full time	204	3.7	0.6	t	2.90	.004*
	Part time	40	3.4	0.9			

(Table 4.16) at the page after illustrates three variables that are linked to PT daily practice. Which are: The average number of patients per each PTduring one working day, the number of PTs working at PT department or clinic and whether PTs work at private sector after their finishing theirjobs.

In this regard, the results indicated significant relationship between perceived EBPTknowledge and attitudes on one hand, and the number of patient seen by PT per day on the other, (P= .015) for knowledge, and (p= .021) for attitudes. Furthermore, the post-hoc tests illustrated that PTs whom work with ≤ 5 patient per day, and 5-12 patient per day are having more knowledge and much positive attitudes that those who work with more than 12 patients per day.

The researcher sees those results reasonable, as those who work with less number of patients usually have more time to build and practice EBPT competency, simply they wouldn't be over stressed by large number of patientsthat took most of their time.

Nevertheless, the results indicated that the majority of PT working places are having less than or equal to 5 PTs per each center. And the results showed non-significant statistical relationship between number of PTs working on one place and level of PTs knowledge, attitudes and practices regarding EBPT (P= .726)for knowledge (P= .55) attitudes and (P=.61) for practice.

At the last part of below Table, results showed non-statistical relationshipfor those PTs who practice in private sector after their work regarding their EBPT knowledge, attitudes and practices (P values = .50, .23, .26 respectively).

The researcher comments by that number of patients for each PT per day is critical, as the efficiency and effectiveness of patient management is influenced negatively as the number of patient increase.

Table(4. 16)Average patient number, average PT number, and private PT

Average patient Number per day		**Number**	**Mean**	**SD**	**Factor**	**Value**	**Significance**
EBPT knowledge	≤ 5 patients	64	3.3	0.7	f	4.3	.015*
	5 – 12 patients	142	3.5	0.4			
	≥ 12 patients	38	3.5	0.4			
EBPT Attitudes	≤ 5 patients	64	3.5	0.6	f	5	.007*
	5 – 12 patients	142	3.7	0.3			
	≥ 12 patients	38	3.8	0.3			
EBPT practice	≤ 5 patients	64	3.5	0.9	f	2.7	.066
	5 – 12 patients	142	3.7	0.6			
	≥ 12 patients	38	3.7	0.5			

Average number of PT at workplace							
EBPT knowledge	Less than 5 PTs	165	3.4	0.5	f	.320	.726
	6- 10 PTs	63	3.5	0.5			
	More than 10 PTs	16	3.5	0.3			
EBPT Attitudes	Less than 5 PTs	165	3.7	0.4	f	.599	.550
	6- 10 PTs	63	3.7	0.3			
	More than 10 PTs	16	3.8	0.2			
EBPT practice	Less than 5 PTs	165	3.6	0.8	f	.490	.613
	6- 10 PTs	63	3.7	0.5			
	More than 10 PTs	16	3.7	0.3			
Private PT							
EBPT knowledge	yes	68	3.4	0.7	t	0.68	.500
	No	176	3.4				
EBPT Attitudes	yes	68	3.6	0.6	t	1.20	.230
	No	176	3.7				
EBPT practice	yes	68	3.6	0.9	t	1.13	.261
	No	176	3.5				

Reading PT articles that contributes in sharpen EBPT skills, (Table 4.17) indicates the number of PT articles that each therapist usually read per month. For this purpose, the researcher had conducted statistical analysis to check if there is significant relationship between number of PT articles that PT usually read and the level of their knowledge, attitudes and practicesof EBPT.

The results shown in (Table 4.17) indicated significant relationship between EBPT knowledge and the number of articles read per month (P= .000), and the results of Scheffepost-hoc test showed that PTs who read more than 10 articles have higher knowledge than those who read less, moreover, similar significant relationship were noticed by the researcher regarding EBPT practice (P= .000), where the results pointed to

those who read 6-10 articles has higher level of EBPT practice (mean= 3.83) than those who read less.

Moreover, although the results indicated significant relationship regarding EBPT attitudes (P= .043), while results of Scheffee post-hoc test illustrated no significance relation among groups.

On the other hand, results in (Table 4.17) pointed to significant relationship between EBPT knowledge and the ability to access to PT search engines fromplaces where PTs work (P=0.000). Scheffe post-hoc test presented those PTs who can access to PT search engine from their workplace are having higher EBPT knowledge and positive attitudes (P=0.000).

In general, there is lack of information at level of PTs accessibility to specialized PT research search engines, and what are the major engines used by PTs, although that PTs possess good IT skills, but the researcher concluded that PTs do not get advantage of this opportunity to apply EBPT competency.

Table (4. 17) number of PT articles per month, access to PT search engine

Number of PT articles per month		**Number**	**Mean**	**SD**	**Factor**	**Value**	**Significance**
EBPT knowledge	1 article	96	3.3	0.6	f	7.6	.000 *
	2-5 articles	124	3.6	0.4			
	6-10 Article	21	3.5	0.5			
	More than 10	3	3.8	0.5			
EBPT Attitudes	1 article	96	3.6	0.5	f	9.3	.043*
	2-5 articles	124	3.7	0.3			
	6-10 Article	21	3.8	0.4			
	More than 10	3	3.5	0.1			

EBPT practice	1 article	96	3.4	0.8	f	9.3	.000 *
	2-5 articles	124	3.8	0.5			
	6-10 Article	21	3.9	0.6			
	More than 10	3	3.8	0.5			
Access to PT search engines from workplace							
EBPT knowledge	YES	132	3.56	0.4	t	4.336	0.000 *
	NO	112	3.29	0.6			
EBPT Attitudes	YES	132	3.67	0.3	t	.311	.756
	NO	112	3.69	0.5			
EBPT practice	YES	132	3.84	0.5	t	4.678	0.000 *
	NO	112	3.45	0.8			

EBPT in decision making

PTs where asked to estimate the number of times they use EBPT in making clinical decision per month, 230 PT out of 244 had perceived that they use it less than or equal 5 times per month, as in indicated in (Table 4.18),there is significant relationship between number of times that PTs use EBPT in making their clinical decision and level of EBPT knowledge (P= .000), Scheffee post-hoc test indicates that therapists whom used it more 2-5 times per month showed to have more EBPT knowledge and practice.

The process of making clinical decisions is linked to group of variables, for instance, cumulative experience for PTs, level of their awareness by recent evidence and many other variables. Evidence-based decision making involves choosing from a discrete range of options, which may include doing nothing or a “wait and see” strategy. All such choices are informed by an evaluation of available information.

Table (4. 18) Evidence in decision making

Evidence in Decision making per month		**N**	**Mean**	**SD**	**Factor**	**Value**	**Significance**
EBPT knowledge	Once	123	3.3	0.6	f	6.4	.000 *
	2-5	107	3.6	0.4			

	6-10	11	3.6	0.5			
	More than 10	3	3.8	0.5			
EBPT Attitudes	Once	123	3.6	0.5	f	2.3	.076
	2-5	107	3.7	0.3			
	6-10	11	3.8	0.4			
	More than 10	3	3.6	0.1			
EBPT practice	Once	123	3.5	0.7	f	7.6	.000 *
	2-5	107	3.8	0.6			
	6-10	11	4.0	0.6			
	More than 10	3	4.0	0.4			

4.8 Interview results with head of PT department at local university:

In Gaza governorates, there are two PTeducational programs with an average of 100 PT graduate per year(MoEHE, 2018), however, the researcher had approached leader of PT department at one university to learn more on EBPT education, and to draw information on barriers and encouraging factors for PTs to learn EBPT. Following are the main results of the interview:

4.8.1 EBPT education:

Throughout researcher revision of PT education program at PT departments, the researchernoticed that EBPT has not a specific module to educate PTs (Annex 7), “We do not have specific module for EBPT inside our physical therapy education plan” head of PT department said, instead, EBPT is educated to students based on lecturers skills and knowledge.

It was clear that educational programs do not have clinical guideline in which thelecturers at PT department can refers to. Having said that, the head of department ensured that PT lecturers used to prepare their presentation based on most updated data with regard to PT interventions (geriatrics, orthopedic, neurology and all other PT specialties) as alternative solution of not inserting a separate module for this competency.

4.8.2 PT lecturers and EBPT:

"There are minor differences in EBPT knowledge and skills among PT lecturers in our department" by this statement the leader of PT department had commented on level of EBPT knowledge and skills that PT lecturers have, as he thinks that PT students hold the same information level regarding EBPT principles. The head of department ensured that most of lecturers present the students same quality of education in a way that enables them to understand basics of EBPT.

4.8.3 Clinical trials and experiments:

The interview concluded that there is lack of PT clinical research, trails and experiments in Gaza, "we unfortunately do not practice any evidence, neither clinical trials, systemic reviews nor any type of clinical experiments inside the physical therapy department" he added.

Both educational programs at both universities do not have PT clinic to train students, instead, both universities used to send PTs to training locations at MoH or UNRWA for training.

4.8.4 Support by University administration:

Technical support from PT department is available and could provide but limited due to restricted financial or logistical resources" he said. On the other hand,he mentioned that clinical instructors at location where student receive trainings are having limited competencies in term of supporting students on EBPT principles.

4.8.5 Challenges and Barriers of educating EBPT:

The researcher had been informed that number of PT program semesters and accredited hours are barely enough to educate student by basics of PT, and there is no possibility to add new credited hours even for EBPT. Which means limited opportunities to have separate module in the future.Additionally, the lack of financial resources hinders the capacity of department to provide different means to support students for better EBPT practice, for example, lack of text books library and computer labs. And the limited duration of semesters adds a challenge for PT students to have a chance for seeking evidence during their study.

Nevertheless, the head of department perceived that due to the academic overload of educational staff by different PT modules in the department, limited technical support can be offered to students regarding EBPT during their study.

Another crucial challenge perceived by the head of department which lies in difficultiesto findingenough space for students to practicecompetencies they had learned, which in turn limitsthe chances for student to apply competencies they have learned during their academic years.

4.8.6 Methods to improve EBPT at Physical therapy departments:

“The best way for student to learn and practice EBPT will be through their self-efforts after their graduation” head of department said. He had added that the department can provide all possible support to PTs whom are willing to learn more with the university.

Nevertheless, another mean was suggested by the head of PT department to enhance PT EBPT which is to build upresearch center to improve EBPT practice outside the university by the national physical therapy association in cooperation with universities.

4.9 EBPT barriers fromtherapist perspective:

The researcher had specified space for PTs to write down EBPT barriers as they see it. In this regards, following is a summary of main findings:

1. Low awareness by principles of EBPT among PTs and their employers.
2. Limited time available to PTs at their work locations to practice EBPT.
3. Lack of specific modules to educate PT students the principles and skills of EBPT at PT educational plans at the local universities.
4. Lack of interest among PT employers to develop EBPT practice at locations where PT is services is provided.
5. Limited technical and financial support provided by PT employers for those PTs whom are interested to practice EBPT.
6. Limited available resources such as text book library, PT journals and computer labs where PT service is provided.

Chapter 5

Conclusion and recommendation

EBPT is one of competencies thatimproves PT intervention, based on the fact that EBPT is built on scientific evidence. However, this study aimed to explore PTs level of knowledge, attitudes and practices regarding this EBPT competency in Gaza governorates. And to examine therelationship between demographic characteristicson one side, and perceived knowledge, attitudes and practices on the other.Additionally,to set group of recommendation for the sake to enhance this competency among Pts.

Although that knowledge perceived to be moderate among PTs, their attitudes were positive, and their perceived practices found to be relatively high, having said that, it was well realized that PTs did not agree to the fact that PT employers paid enough efforts to provide sufficient EBPT environment at locations were PT services is provided.

Nevertheless, results of the study presented significant relationship between some of demographic variables and PTs knowledge, attitudes and practices regarding EBPT. For example, level of education, number of PT articles in which the PT read per month and location where the PT lives are variables found to have statistical relationship with either knowledge, attitudes orpractice.

Having said that, other variablesacted differently, and perceived non-statisticalrelationship such as age of PT, years of experience, number of patients seen per day and many other variables, moreover, many EBPT barriers were perceived by PTs such as low understanding of statistical analysis and foreign language barriers.

As a way ofconclusion of an interview conducted with head of PT educational programs at local university in Gaza, more efforts is needed to specify cross cutting module for EBPT

within PT curricula, and to enhance the environment for better application of EBPT at PT clinical training location.

Study Recommendations:

At last part of this study, the researcher is presenting group of recommendation than cancontribute to enhance level of EBPT knowledge, attitude and practicefrom his point of view, however, the researcher has categorized 3 main themes for recommendations section, at level of PT entry-level programs, at level of PT employers and then at level of PTs as follow:

1) **At level of PT curricula:**
   a) To set up a separate module for EBPT for PT students to learn about, and consider it a primary cross cutting module.
   b) To provide supportive environment for students to practice EBPT, either in term of providing logistics "such as computer lab, text book libraries, accounts at popular PT journals", or financially through supporting PT research.
   c) To build up the capacity of lectures to enable them providing EBPT concepts in appropriate way.
   d) To Develop EBPT guideline to be a reference for full and part time lectures to build their capacity in it.
   e) To adjust scoring matrix for PT students to take in consideration EBPT as a criterion to determine overall score for student.

2) **At level of PT employers:**
   a) To provide necessary logistics to ensure appropriate level of EBPT practice (up to date text books, computer labs).

b) To allocate specific hours for PTs to seek evidence for cases they usually face, either inside or outside workplace.

c) To conduct regular trainings for PTs on how to practice EBPT in their daily PT practice.

d) To offer technical support for those |PTs who know little on EBPT.

e) To held scientific days in cooperation with local universities to enhance EBPT.

3) At PTs level:

a) To seek most recent evidence and build cumulative experience in managing patients using EBPT approach.

b) To advocate at level of universities and workplaces for the sake of improving EBPT practice, in cooperation with national physical therapy association

c) To establish specialized research working groups that focus on certain PT topics, and enhance its competency.

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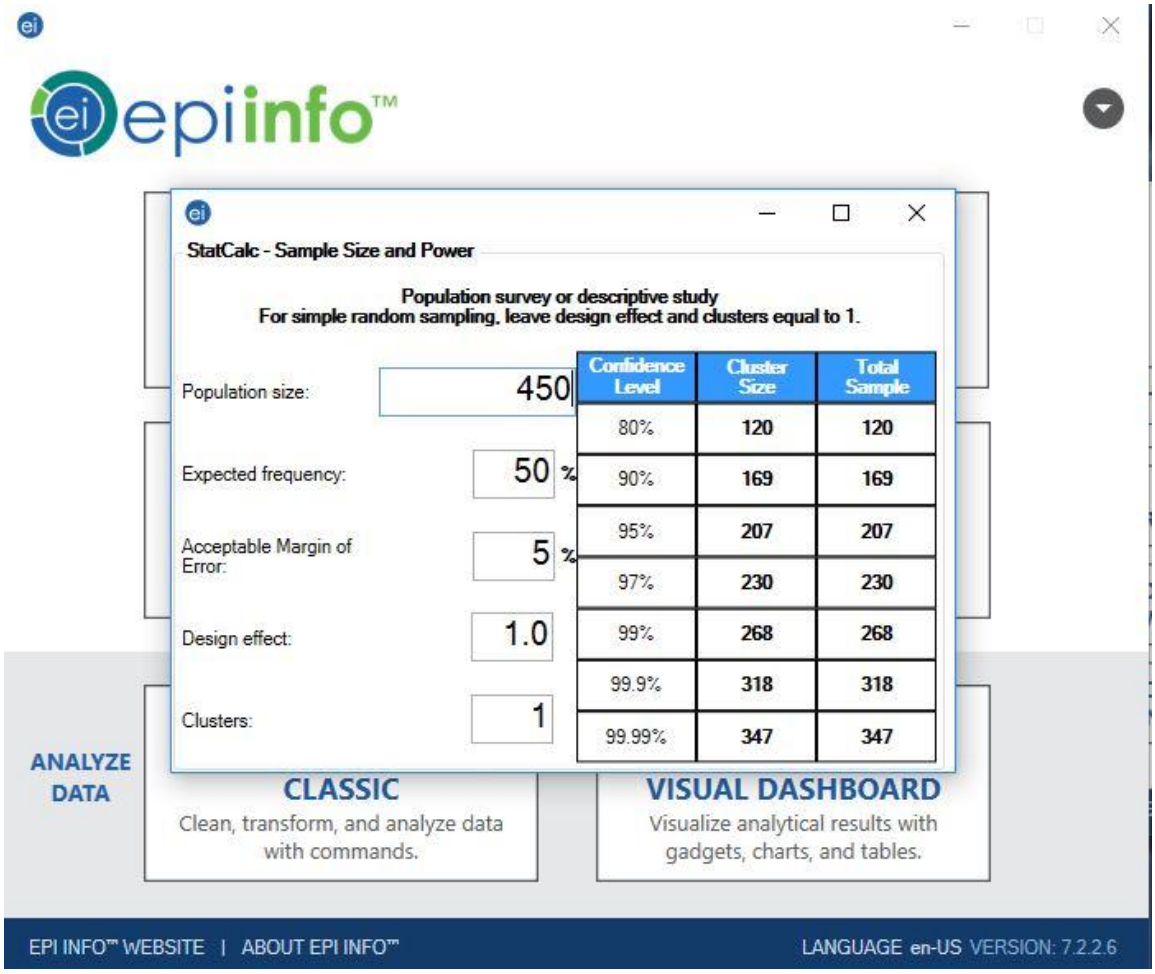
Annexes

Annex (1): List of consultants whom reviewed the questionnaire:

Name	Affiliation
1) Dr. Bassam Abu Hamad	Al-Quds university
2) Dr. Adnan Nasr	Al-Azhar university
3) Dr. Alaa Al-Shatali	Ministry of health
4) Dr. IhmoodHiji	UNRWA
5) Dr. Sami Owemer	Ministry of health
6) Dr. Alia Al-Qeshawi	Ministry of health
7) Dr. KhamisEessi	Islamic university

Annex (2):Sample size:



Annex (3): Ethical Approval

المجلس الفلسطيني للبحث الصحي

Palestinian Health Research Council

تعزيز النظام الصحي الفلسطيني من خلال مأسسة استخدام المعلومات البحثية في صنع القرار

Developing the Palestinian health system through institutionalizing the use of information in decision making

Helsinki Committee

For Ethical Approval

Date: 04/12/2017 **Number:** PHRC/HC/299/17

Name: YASER M. ZEEDIA الاسم:

We would like to inform you that the committee had discussed the proposal of your study about:

نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:

Knowledge, Attitudes and Practices of Physical Therapists Regarding the Evidence-Eased Practice in Gaza Governorates

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/299/17 in its meeting on 04/12/2017

و قد قررت الموافقة على البحث المذكور عاليه بالرقم والتاريخ المذكوران عاليه

Signature

Member **Chairman** **Member**

Genral Conditions:-

1. Valid for 2 years from the date of approval.
2. It is necessary to notify the committee of any change in the approved study protocol.
3. The committee appreciates receiving a copy of your final research when completed.

Specific Conditions:-

E-Mail:pal.phrc@gmail.com

Gaza - Palestine غزة - فلسطين

شارع النصر - مفترق العيون

Annex (4) : Questionnaire(Arabic Version)

جامعة القدس
Al-Quds University

جامعة القدس
عمادة الدراسات العليا
كلية الصحة العامة
مسار الإدارة الصحية

Ref. _____

طلب الموافقة على المشاركة في عينة بحث

أنا الباحث / ياسر محمد زيدية طالب ماجستير في جامعة القدس، وأقوم بعمل دراسة لقياس معرفة و إتجاهات وممارسات إختصاصي العلاج الطبيعي لممارسة العلاج الطبيعي المستند إلى البراهين **Evidence based physical therapy** في محافظات غزة كمتطلب للحصول على درجة الماجستير - مسار الإدارة الصحية، حيث تستهدف الدراسة إختصاصيي العلاج الطبيعي من حملة درجة البكالوريس او أعلى والعاملين بهذا المجال في محافظات غزة بغض النظر عن سنوات خبرتهم او أعمارهم، و تركز البيانات قياس معرفة وتوجهات وممارسات الإختصاصيين للممارسة المستندة إلى البراهين Evidence Based Physical therapy من خلال مجموعة من الأسئلة ضمن 5 محاور رئيسة وهي:

1- معلومات أساسية عن الفئة المستهدفة بعينة الدراسة
2- معلومات حول بيئة ممارسة العلاج الطبيعي المستند إلى البراهين
3- معرفة الإختصاصيين حول العلاج الطبيعي المستند إلى البراهين
4- إتجاهات الإختصاصيين حول العلاج الطبيعي المستند إلى البراهين
5- ممارسة العلاج الطبيعي المستندة إلى البراهين

وتهدف الدراسة إلى فهم أكبر للعوامل التي تؤثر على هذه الممارسة وتحديد مواطن القوة ونقاط الضعف لدى الإختصاصيين من وجهة نظرهم.

ثم إختيارك للمشاركة في هذه العينة كونك أحد الممارسين لهذه المهنة، وعلى الرغم بأن الإجابة على هذه الإستبانة طوعية ويمكنك الوقف عن الإجابة عن الأسئلة في أي وقت سأكون مقدراً لإجابتك على الأسئلة بشكل كامل.

المشاركة في هذه الدراسة ينطوي على الإجابة على الأسئلة الواردة والتي تتطلب حوالي 15 دقيقة من وقتك، مهما كانت المعلومات التي تقدمها سيتم الإحتفاظ بها بسرية تامة وسوف يطلع عليها فقط فريق البحث حيث لن يتم تقاسمها مع اي جهات إخرى وستستخدم البيانات للوصول لنتائج الدراسة فقط.

هل أنت موافق على المشاركة ؟	موافق	غير موافق
	☐	☐

مع وافر الإحترام والتقدير ،،

ياسر محمد زيدية

0599790507

1

الجزء الأول: بيانات أساسية					
1. الجنس	☐ ذكر	☐ أنثى			
2. مكان السكن	☐ شمال غزة	☐ غزة	☐ المنطقة الوسطى	☐ خانيونس	☐ رفح
3. العمر	...				
4. أعلى مؤهل علمي	☐ بكالوريس علاج طبيعي ☐ ماجستير علاج طبيعي ☐ دكتوراة علاج طبيعي				
5. هل درست دبلوم علاج طبيعي قبل ان تحصل على البكالوريس	☐ نعم	☐ لا			
6. الجامعة التي حصلت على درجة تخصص العلاج الطبيعي منها	☐ جامعة الأزهر	☐ الجامعة الإسلامية	☐ جامعة أخرى : برجاء التحديد:		
7. هل قمت بدراسة تخصصية للعلاج الطبيعي بعد البكالوريس	☐ نعم	☐ لا			
8. إذا كانت إجابة السؤال السابق نعم، برجاء تحديد إطار التخصص الفرعي	☐ Geriatric and internal medicine ☐ Musculoskeletal ☐ Cardiorespiratory ☐ Neurology ☐ Pediatric ☐ Sports ☐ غير ذلك :				
9. كم عدد سنوات خبرتك بمهنة العلاج الطبيعي	.....				
10. ما هو مكان عملك الحالي كاختصاصي/ة علاج طبيعي	☐ وزارة الصحة	☐ وكالة الغوث	☐ منظمة غير حكومية	☐ عيادة خاصة	☐ غير ذلك:
11. ما هو نظام دوامك	☐ دوام كامل	☐ دوام جزئي			

2

12. ما هو معدل المرضى الذين تعمل معهم بشكل يومي	.....
13. ما هو المعدل الزمني للجلسة ؟	.....
14. كم عدد الإختصاصيين الذين يعملون إلى جوارك في مكان عملك	.....
15. هل تعمل في القطاع الخاص بعد دوامك الأساسي Private	☐ نعم ☐ لا
16. ما هي الحالات الأكثر شيوعا التي عملت معها خلال السنة الماضية	☐ Orthopedic ☐ Cardiorespiratory ☐ Neurological ☐ Pediatric (<12 years) ☐ Geriatric (>65 years) ☐ Sports ☐ Other: please specify:
17. ما هو معدل المقالات العلمية Articles التي تخص العلاج الطبيعي التي تقرؤها خلال الشهر	☐ أقل من مقال واحد ☐ من 2 إلى 5 مقالات ☐ من 6 إلى 10 مقالات ☐ أكثر من 10 مقالات
18. لديك امكانية الدخول إلى محركات البحث للوصول إلى أبحاث العلاج الطبيعي بشكل مجاني من مكان عملك	☐ نعم ☐ لا
19. ما اكثر محركات البحث التي تستخدمها للوصول إلى المقالات	☐ Google ☐ PEDro ☐ PubMed ☐ Cochrane ☐ Up to date ☐ APTA ☐ Other please specify ☐
20. أرجو تسمية موقعين تستخدمهم للوصول إلى مقالات ودراسات العلاج الطبيعي	1..... 2.....
21. ما هو معدل إستخدامك لنتائج البحوث العلمية وأدبياتها Literature في عملية إتخاذ القرار لإختيار التدخل المناسب للمريض خلال الشهر	☐ أقل من مرة واحدة شهريا ☐ 2- 5 مرات شهريا ☐ 6 10 مرات شهريا ☐ أكثر من 10 مرات شهريا

22. ارجو الإشارة إلى معدل الوقت الذي تقضيه خلال الأسبوع في الأنشطة الآتية	• تقديم خدمة العلاج الطبيعي للمريض _____ % • عمل البحث العلمي في إختصاص العلاج الطبيعي _____% • التعليم والتدريب لطلاب العلاج الطبيعي _____ %
23. هل تلقيت سابقا تدريبا في العلاج الطبيعي الممتد إلى البراهين	( ) نعم، ( ) لا إذا كانت إجابتك بنعم ارجو ذكر المؤسسات التي تلقيت من خلالها التدريبات

التاريخ	جهة التدريب	مدة التدريب	هل ضمت الدورة جزء عملي ؟

24. هل هناك بروتوكولات علاجية تستخدم بالقسم لديك	☐ نعم	☐ لا
25. هل يقوم المشغل بتحديث البروتوكولات العلاجية بشكل دوري ؟	☐ نعم	☐ لا
26. هل يقوم المشغل بتقييم ومراقبة ممارساتك العلاجية للمرضى	☐ نعم	☐ لا

الجزء الثاني: ارجو إبداء مستوى موافقتك على العبارات الواردة ادناه

2.1 بيئة ممارسة العلاج الطبيعي الممتد إلى البراهين					
البند	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
1. مكان عملك مزود بأجهزة حاسوب متصلة بالانترنت وهي متاحة لكافة إختصاصي العلاج الطبيعي					
2. أجهزة الحاسوب متاحة لكافة إختصاصي العلاج الطبيعي					
3. توفر مؤسستك وقت كافي لك لإستخدام شبكة الإنترنت للوصول إلى محركات البحث الخاصة بالمقالات العلمية للعلاج الطبيعي					
4. تتوفر في مكان عملك مكتبة تحتوي على كتب ومراجع علاج طبيعي و كتب إلكترونية تخصصية					
5. يدعم رؤساء الأقسام إختصاصي العلاج الطبيعي في إختصاصي العلاج الطبيعي لتطبيق ممارسات العلاج الطبيعي الممتدة إلى البراهين					
6. توفر مؤسستك فرص تدريبية لتعلم ممارسات العلاج الطبيعي الممتدة إلى البراهين					

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2.2 معرفة الإختصاصيين حول العلاج الطبيعي المستند إلى البراهين					
البند	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
7. العلاج الطبيعي المستند إلى البراهين يعني قراءة اكبر كم ممكن من ابحاث ومقالات حول تخصص العلاج الطبيعي					
8. العلاج الطبيعي المستند إلى البراهين يستبدل خبرة الإختصاصي بالبحث العلمي					
9. العلاج الطبيعي المستند إلى البراهين هو عبارة عن تحديث معلومات الإختصاصي من خلال مواد علمية إلكترونية متاحة على شبكة الإنترنت					
10. يعرف العلاج الطبيعي المستند إلى البراهين بأنها الإستخدام المنصف والصريح والمتزن لأفضل البراهين العلمية في عملية إتخاذ القرار بشأن إختيار أفضل عناية طبية للمريض					
11. مكونات العلاج الطبيعي المستند إلى البراهين هي مزيج ما بين أفضل الإثباتات العلمية للتدخلات العلاجية لحالة مرضية ما، و الأخذ بعين الإعتبار تفضيلات المريض، وخبرات الإختصاصي التي إكتسبها طول فترة عمله					
12. لا تحتاج تدخلات العلاج الطبيعي المعروفة بفعاليتها وتأثيرها الإيجابي إلى التحديث او التعديل او المراجعة					
13. تلقيت أسس ممارسة العلاج الطبيعي المستندة إلى البراهين خلال دراستي الجامعية					
14. مهاراتي باستخدام الحاسوب تمكنني من البحث على مقالات العلاج الطبيعي من خلال محركات البحث على الإنترنت					
15. لدي معرفة جيدة بأنواع البيانات ومصادرها					
16. يمكنني الإستدلال على المعلومات والبيانات الخاصة بالحالة التي اقوم على علاجها من خلال محركات البحث					
17. لدي القدرة على تحديد صدق المعلومات التي احصل عليها من محركات البحث او غيرها من المصادر					
18. لدي القدرة على تحديد مستوى جودة وصلاحية المعلومات التي أحصل عليها من محركات البحث					
19. لدي معرفة حول إستراتيجيات وانماط البحث عن نتائج البحوث المتعلقة بممارسات العلاج الطبيعي					
20. ممارسة العلاج الطبيعي المستند إلى البراهين لا تأخذ بعين الإعتبار تفضيلات وأراء المرضى أثناء تقديم الخدمة					
21. تساعدني ممارسة العلاج الطبيعي المستندة إلى البراهين في تحديد الأولويات العلاجية للمريض					

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22. لدي معرفة بكيفية استخدام محركات البحث الطبيه مثل: PubMed, PEDro					
2.3 إتجاهات إختصاصيي العلاج الطبيعي تجاه العلاج الطبيعي الممتد إلى البراهين					
البند	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
23. يعتبر تطبيق العلاج الطبيعي الممتد إلى البراهين هام للوصول إلى افضل عناية للمريض					
24. تبني ممارسة العلاج الطبيعي الممتد إلى البراهين سمعة مهنية ممتازة للذين يقومون بممارستها					
25. ينبغي ضغط العمل من تحديث معلوماتي وقراءة أخر ما توصلت إليه الأبحاث بما يتعلق بممارسة مهنة العلاج الطبيعي					
26. يجب ان تكون الممارسة الممتدة إلى البراهين جزء اساسي من الممارسة الإكلينيكية					
27. تعتبر الخبرات السابقة للاختصاصي اهم بكثير من الإطلاع على نتائج الأبحاث العلمية بما يتعلق باختيار أفضل تدخلات للمريض					
28. ممارسة العلاج الطبيعي الممتد إلى البراهين هي مضيعة للوقت وتضيف علي عبء، ولا فائدة منها					
29. سوف استمر باستخدام الممارسات المجربة سابقا والتي اثبتت نجاحها بدلاً من قيامي بتغييرها لشيء جديد					
30. لدي الإهتمام بممارسة العلاج الطبيعي الممتد إلى البراهين في عملي اليومي					
31. تساعدني ممارسة العلاج الطبيعي الممتد إلى البراهين لإتخاذ قرار بشأن العناية للمريض					
32. لدي الإهتمام بحضور ورش العمل التي لها علاقة بالممارسة الممتدة إلى البراهين					
33. تهدف الأبحاث العلمية لمساندة التدخلات التي يستخدمها الإختصاصين مع المرضى					
34. انا بحاجة لتطوير المهارات الضرورية لتحسين الممارسة الممتدة على البراهين					
35. من الضروري إجراء تقييم دوري لأدائي إما بنفسي او من خلال مشرفي وذلك لتقييم الفجوات في ممارستي العلاجية					

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2.4 ممارسة العلاج الطبيعي المستند إلى البراهين					
البند	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
36. لدي المعرفة بكيفية تحويل مشكلة لمريض إلى سؤال يمكنني البحث عن إجابته باستخدام محركات البحث					
37. أقوم بالبحث عن المقالات العلمية والأبحاث التي يمكنها الإجابة على السؤال الذي قمت بصياغته					
38. اقوم بالوصول إلى محركات البحث والحصول على البيانات " أبحاث، مقالات، اوراق علمية" التي أحتاجها من مكان عملي					
39. أقوم بتطبيق ما حصلت عليه من نتائج بحثي حول مشكلة ما للمريض في مكان عملي وبشكل دوري					
40. أقوم بفحص اي مقال علمي حصلت عليه إستنادا إلى معايير محددة					
41. اقوم بمشاركة المعلومات التي وجدتها مع زملائي					
42. حين أجد نتائج بحث عن مشكلة لمريض ما، أقوم بدمج الإثبات العلمي الذي وجدته بالخبرة التي أمتلكها مع مراعاة تفضيلات المريض لتقديم خدمة ذات جودة عالية للمريض					

2.5 قم بتقييم المعيقات (من 0 إلى 3) بما يتعلق بممارسة العلاج الطبيعي المستند إلى البراهين في عملك اليومي:
0 عائق ضعيف ، 3 عائق كبير

البند	التقييم (0-3)
1) وقت غير كافي للبحث عن الأبحاث العلمية	
2) غياب الوعي والمعرفة بكيفية ممارسة العلاج الطبيعي إستنادا إلى البراهين	
3) غياب الوعي بأهمية ممارسة العلاج الطبيعي إستنادا إلى البراهين	
4) غياب مصادر المعلومات والبيانات	
5) غياب القدرة على تقييم جودة مخرجات البحث العلمي	
6) صعوبة تطبيق نتائج البحث على الحالات المرضية الفردية ذات الخصائص المميزة	
7) غياب القدرة على فهم التحليل الإحصائي	
8) غياب الدعم الفني من مشرفي او من المؤسسة التي أعمل لديها	
9) غياب مهارات اللغة الإنجليزية وحواجز اللغات الأخرى	
10) ندرة الوصول إلى محركات البحث العلمية	
11) عدم قدرتي على تطبيق النتائج التي وصلت لها على المرضى	
12) الإلتزام بالبرتوكولات العلاجية والتي تحد من قدرتي على إدخال ممارسات جديدة	

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حواجز أخرى :

1) ..... .

2) ..... .

3) ..... .

4) ..... .

5) ..... .

2.6 ما هي توصياتك لتحسين العلاج الطبيعي الممتد إلى البراهين ؟

1) ..... .

2) ..... .

3) ..... .

4) ..... .

5) ..... .

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Annex (5): Questionnaire (English Version):

Al Quds University

School of public health

جامعة القدس
Al-Quds University

Consent form

my name is Yasser Zeedia, I'm a student at master program of health management at school of public health, and I'm working on a study titled by: **Knowledge, Attitudes and Practices of physical therapists regarding the evidence-based practice in Gaza governorates**, which is as a requirement to complete my degree, however, the study targets physical therapists at Gaza goverenotes, and the data focuses only on skills, knowledge and attitudes of Physical therapists "PTs" regarding Evidence based Physical therapy EBPT within 5 main section:

1- Demographic information
2- EBPT enabling environment
3- Knowledge of Physical therapists on EBPT.
4- Attitudes of PT on EBPT.
5- Practice of PT of EBPT.

On the other hand, this study is planned to draw information on factors which influence this practice and determine the strengths and weakness at PTs practice form their perspective.

You have been selected to answer questions below since you are one of Physical therapists, despite answering those question is voluntary, and you can stop answering at any stage, I'll be appreciated if you completed all questions on it. Answering the questions requires around 15 minuets, please note that all data will remain confidential and will used only to approach research findings.

Do you agree to answer the questions at this questionnaire? ( ) Yes ( ) No

1

Part I – Demographic Data:					
1. Gender	☐ Male	☐ female			
2. Place of Residency	☐ North	☐ Gaza	☐ Middle area	☐ Khanyonis	☐ Rafah
3. Age	……..				
4. Highest qualification attained	☐ Diploma certificate ☐ Bachelor's degree ☐ Master's degree ☐ Doctoral degree				
5. Have you obtained your bachelor degree after you upgraded your diploma degree	☐ Yes	☐ No			
6. Place of Highest qualification:	☐ Al-Azhar,	☐ Islamic university	☐ Other: please Specify		
7. Do you have any subspecialty in physical therapy	☐ Yes	☐ No			
8. If yes, what is your subspecialty	☐ Geriatric and internal medicine ☐ Musculoskeletal ☐ Cardiorespiratory ☐ Neurology ☐ Pediatric ☐ Sports ☐ Others – Please state: _____				

9. How many years have you worked in the field of Physical therapy practice	……				
10. Please indicate your current area of practice	☐ MoH	☐ UNRWA	☐ Local NGO	☐ Private clinic	☐ Other: please specify
11. How do you practice physical therapy	☐ Full time	☐ Part time			
12. How many patients do you see on daily average:	……				
13. What is the estimated duration of your session:					
14. How many physical therapists works around you at your department	……				
15. What are the Most common cases you face	☐ Orthopedic ☐ Cardiorespiratory ☐ Neurological ☐ Pediatric (<18 years) ☐ Geriatric (>65 years) ☐ Sports ☐ Other: please specify:				

16. Do you wok as private physical therapist after your official work	☐ Yes	☐ No					
17. How many articles do read per month	☐ < 1 article	☐ 2 -5 article		☐ 6 – 10 articles		☐ >10 articles	
18. I have access to physical therapy search engine form my workplace	☐ Yes	☐ No					
19. What is the most search engine do you use to seek articles	☐ Google	☐ APTA	☐ Cochrane	☐ PubMed	☐ PEDro	☐ Bing	☐ Other please specify
20. Please name 2 common physical therapy Journal you visit regularly (if Any)	1: …… 2 : …...						
21. How often do you use professional literature and research findings in the process of clinical decision making	☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always						

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22. Please indicate the percentage of your total work time that you spend in each type of activity during a typical month	Example: Patient care – 70%; Research – 20%; Teaching – 10% Patient care _____% Research _____% Teaching _____%
23. Have you received a training in Evidence based Physical therapy	( ) Yes, ( ) No, If yes please continue the following table, Date | Training agency | Duration | Has it had a practical component? | | | | | | | | | | | |
24. Is there treatment protocols "clinical guideline" at your department ?	☐ Yes ☐ No
25. Dose your employer do regular update for the protocols?	☐ Yes ☐ No
26. Does your employer monitor and evaluate your physical therapy practice ?	☐ Yes ☐ No

Part II:

2.1 EBPT Enabling Environment:					
Item	**Strongly Agree**	**Agree**	**Not decided**	**disagree**	**Strongly disagree**
1. Your work place in supported by computers which is connected to internet					
2. Computers are available to all physical therapists to use it					

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3. Your organization provides your enough time to reach physical therapy research and articles					
4. There is a text-book library which contains physical therapy books and E-books					
5. Your supervisors supports you to practice evidence based physical therapy					
6. Your organization provides you training opportunities to learn more on EBPT					
2.2 Knowledge of evidence based Physical therapy (EBPT)					
7. EBPT practice means reading PT research as much as the therapist can afford,					
8. EBPT replaces clinical expertise by research evidence					
9. EBPT is only about updating information via e-resources					
10. EBPT defined as " the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients"					
11. EBPT is composed of "Best research evidence, patient preferences and therapist expertise".					
12. Well-known PT interventions which is proven to be effective are never subjected to updates or modifications					

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13. I learned the foundations for EBPT during my academic years					
14. My IT skills are good enough for me to seek evidence via physiotherapy search engines					
15. I`m well Aware by major data types and sources					
16. I can retrieve data which I need from search engines and other sources					
17. I possess the Ability to determine how valid (close to the truth) the material is					
18. I have the Ability to determine how useful (clinically applicable) the material is					
19. I have the knowledge to analyze critically evidence against set standards					
20. EBPT don`t take in consideration patient preferences					
21. EBPT helps me to identify priorities in patient care					
22. I have the knowledge to use medical search engines like Pubmed, PEdro					
2.3 **Attitudes of Physical therapist Regarding EBPT:**					
Item	**Strongly Agree**	**Agree**	**Not decided**	**Don`t agree**	**Strongly don`t agree**
23. Application of EBPT is crucial to apply best patient care					

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24. Adoption of EBPT improves the reputation of Physical therapist					
25. My workload is too great for me to keep up to date with all the new evidence					
26. EBPT should be an integral part of clinical practice.					
27. Previous clinical experience is more important than research findings in choosing the best treatment available for a patient.					
28. The adoption of EBPT is a waste of time and places unreasonable demand on physical therapists					
29. I stick to tried and trusted methods rather than changing to anything new					
30. I am interested in using EBPT in my daily practice					
31. Evidence-based Practice helps me make decision about patient care					
32. I am interested in attending courses relating to EBP					
33. Literature and research findings help improve patient care					
34. I need to improve skills needed to improve my EBPT					
35. It is nessccary to perform regular evaluation for myself, either by me or by my					

supervisor in order to assess the gaps on my work					
2.4 **Practice of physical therapy EBP**					
Item	Very likely	Likely	Rarely	Unlikely	Very unlikely
36. I have the knowledge on how to turn patient problem into researchable question					
37. I used to track down the relevant evidence once i have formulated the question					
38. I used to search for scientific papers, articles and research findings which I need form my work location					
39. I used to apply techniques I found in my research on patient problem					
40. I used to evaluate my research findings based on pre identified criteria					
41. I used to share this information with colleagues?					
42. Whenever I find results for any problem I searched for, I do integrate it with my experience and patient preferences to guide the patient into best quality of care					

2.5 Rank your barriers (from 0 to 3) to the use of PT EBP in your daily practice.
3- Greatest barrier, 0 –Weakest barrier

Item	**Score (0 – 3)**
1. Insufficient time	
2. Lack the awareness and knowledge on how to practice EBPT	

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3. Lack of awareness of importance of EBPT	
4. Lack of information resources	
5. Poor ability to critically appraise the literature	
6. inability to apply research findings to individual patient with unique characteristics	
7. lack of understanding statistical analysis	
8. lack of support from my supervisor	
9. understanding of English and language barriers	
10. Limited access to search engines	
11. Inability to apply research findings in my patient population	
12. Commitment of treatment protocols	

Other Barriers:

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Annex (6) :Physical therapy education plan at Al-Azhar university

Al- Azhar University – Gaza
Faculty of Applied Medical Sciences
Department of Physical Therapy

جامعة الأزهر – غزة
كلية العلوم الطبية التطبيقية
قسم العلاج الطبيعي

THIRD: Physical Therapy Department Requirements (80 Credit Hours):

❖ **List of Courses Required:**

Course Name	ساعات معتمدة Credit Hours	CODE	اسم المقرر
Histology	2	AMSP 2201	علم الأنسجة للعلاج الطبيعي
Medical Ethics	1	AMSP 2102	قوانين وآداب المهنة
Principles of Physical Therapy	3	AMSP 2303	مبادئ العلاج الطبيعي
Advanced Anatomy	3	AMSP 2304	تشريح متقدم للعلاج الطبيعي
Therapeutic Exercise I	2	AMSP 2205	تمارين علاجية (1)
Medical Massage	1	AMSP 2106	أسس وتقنيات التدليك
Biomechanics I	2	AMSP 2207	ميكانيكا حيوية (١)
Social Psychology	1	AMSP 2108	علم النفس الاجتماعي
Tests and Measurements in Physical Therapy	3	AMSP 2309	اختبارات ومقاييس العلاج الطبيعي
Growth & Development	2	AMSP 2210	نمو وتطور
Radiology for Physical Therapy	1	AMSR 3131	مبادئ علم الأشعة للعلاج الطبيعي
Biomechanics II	2	AMSP 3211	ميكانيكا حيوية (2)
General Surgery	1	AMSP 3112	الجراحة العامة
Therapeutic Exercise II	3	AMSP 3313	تمارين علاجية (2)
Orthopedics & Orthopedic Surgery	3	AMSP 3314	أمراض العظام وجراحتها
Physical Therapy in Orthopedics & Orthopedic Surgery	3	AMSP 3315	علاج طبيعي لأمراض العظام وجراحتها
Clinical Training in Orthopedics & Orthopedic Surgery	1	AMSP 3116	تدريب إكلينيكي لأمراض العظام وجراحتها
Electrotherapy and Hydrotherapy	3	AMSP 3317	علاج كهربائي ومائي
Internal Medicine & Geriatrics	2	AMSP 4237	أمراض الباطنة والمسنين
Physical Therapy in Internal Medicine & Geriatrics	3	AMSP 4338	علاج طبيعي لأمراض للباطنة والمسنين
Clinical Training in Internal Medicine & Geriatrics	1	AMSP 4139	تدريب إكلينيكي لأمراض الباطنة والمسنين
Gynaecology & Obstetrics	1	AMSP 4129	أمراض النساء والتوليد
Physical Therapy in Gynecology & Obstetrics	1	AMSP 4130	علاج طبيعي أمراض النساء والتوليد
Clinical Training in Gynecology & Obstetrics	1	AMSP 4131	تدريب إكلينيكي أمراض النساء والتوليد
Burn & Plastic Surgery	1	AMSP 3121	الحروق والجراحة التجميلية
Physical Therapy in Burn &	1	AMSP 3122	علاج طبيعي للجراحة العامة والحروق

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General Surgery			
Clinical Training in General surgery & Burn	1	AMSP 3123	تدريب إكلينيكي للجراحة العامة والحروق
Cardiopulmonary Diseases, Cardiothoracic Surgery & Intensive Care	3	AMSP 4326	أمراض وجراحة القلب والصدر
Physical Therapy in Cardiopulmonary Diseases & Cardiothoracic Surgery	3	AMSP 4327	علاج طبيعي لأمراض وجراحة القلب والصدر
Clinical Training in Cardiopulmonary Diseases, Cardiothoracic Surgery	1	AMSP 4128	تدريب إكلينيكي لأمراض وجراحة القلب والصدر
Anatomy & Physiology of the Nervous System	2	AMSP 3224	تشريح وفسيولوجيا الجهاز العصبي
Psychiatry	1	AMSP 4133	أمراض نفسية
Research Methodology	2	AMSP 4232	البحث العلمي
Neurology & Neurosurgery	3	AMSP 4334	أمراض وجراحة الجهاز العصبي
Physical Therapy in Neurology & Neurosurgery	3	AMSP 4335	علاج طبيعي لأمراض وجراحة الجهاز العصبي
Clinical Training in Neurology & Neurosurgery	1	AMSP 4136	تدريب إكلينيكي لأمراض وجراحة الجهاز العصبي
Pediatric Diseases & Surgery	3	AMSP 3318	أمراض وجراحة الأطفال
Physical Therapy in Pediatric Diseases & Surgery	3	AMSP 3319	علاج طبيعي لأمراض وجراحة الاطفال
Clinical Training in Pediatric Diseases & Surgery	1	AMSP 3120	تدريب إكلينيكي لأمراض وجراحة الأطفال
Management in Physical Therapy	2	AMSP 4240	الإدارة في العلاج الطبيعي
Summer Clinical Fieldwork	3	AMSP 3325	تدريب إكلينيكي صيفي
Total	80	المجموع	

Annex (7): Physical therapy study plan at Islamic university

متطلبات التخصص			
	الأسم	الرقم	عدد الساعات
1	متطلب اختياري (٢)	OPTI 4302	3
2	متطلب اختياري (١)	OPTI 4301	3
3	متطلب اختياري (٣)	OPTI 4303	3
4	علاج طبيعي أمراض وجراحة القلب (عملي)	PHTH 4109	1
5	علاج طبيعي أمراض وجراحة القلب	PHTH 4209	2
6	علاج طبيعي لأمراض النساء والولادة	PHTH 4204	2
7	علاج طبيعي لأمراض الباطنة والمسنين	PHTH 4205	2
8	علاج طبيعي لأمراض الباطنة والمسنين (عملي)	PHTH 4105	1
9	علاج طبيعي لأمراض وجراحة الأعصاب (عملي)	PHTH 4102	1
10	علاج طبيعي لأمراض وجراحة الأعصاب	PHTH 4202	2
11	علاج طبيعي للجراحة العامة والحروق (عملي)	PHTH 3110	1
12	علاج طبيعي للجراحة العامة والحروق	PHTH 3210	2
13	علاج طبيعي لأمراض وجراحة العظام (عملي)	PHTH 3104	1
14	علاج طبيعي لأمراض وجراحة العظام	PHTH 3204	2
15	علاج طبيعي لأمراض وجراحة الأطفال (عملي)	PHTH 3108	1
16	علاج طبيعي لأمراض وجراحة الأطفال	PHTH 3208	2
17	علم الأدوية	PHTH 3309	3
18	أمراض وجراحة القلب والصدر	PHTH 4206	2
19	أمراض الباطنة والمسنين	PHTH 4203	2
20	الصحة العامة	PHTH 3203	2
21	أمراض وجراحة العظام	PHTH 3311	3
22	الفحوص التشخيصية وعلم الأشعة	PHTH 3205	2
23	علم النمو والتطور	PHTH 2305	3
24	علاج طبيعي لأمراض النساء والولادة (عملي)	PHTH 4104	1
25	أمراض وجراحة الأعصاب	PHTH 4301	3
26	مشروع البحث	PHTH 4100	1
27	طب وجراحة الأطفال	PHTH 3307	3
28	علم النفس الاكلينيكي	PHTH 3306	3
29	التمارين العلاجية (عملي)	PHTH 3102	1
30	التمارين العلاجية	PHTH 3202	2
31	الميكانيكية الحيوية وعلم الحركة	PHTH 2304	3
32	العلاج اليدوي (عملي)	PHTH 2106	1
33	العلاج اليدوي	PHTH 2206	2
34	الفحص السريري للعلاج الطبيعي (عملي)	PHTH 2105	1
35	الفحص السريري للعلاج الطبيعي	PHTH 2205	2
36	فسيولوجيا التمارين (عملي)	PHTH 2103	1
37	فسيولوجيا التمارين	PHTH 2203	2
38	علم الأمراض	PHTH 2302	3
39	الوسائل العلاجية الفيزيائية (عملي)	PHTH 2102	1
40	الوسائل العلاجية الفيزيائية	PHTH 2202	2
41	علم التشريح المتقدم (عملي)	PHTH 2101	1
42	علم التشريح المتقدم	PHTH 2201	2
43	مقدمة في العلاج الطبيعي	PHTH 2301	3
متطلبات الكلية			
	الأسم	الرقم	عدد الساعات
1	كيمياء عامة عملية	CHEM 1102	1
2	كيمياء عامة للعلوم الصحية	CHEM 1305	3
3	كيمياء عضوية وحيوية	BIOC 1301	3
4	فيزياء عامة لطلبة العلوم الصحية	PHYS 1310	3
5	أحياء عامة (علوم)	BIOL 1305	3
6	احصاء وأساليب بحث	MEDI 3304	3
7	إدارة صحية	MEDI 1201	2
8	أخلاقيات المهنة	OPTO 1201	2
9	علم وظائف أعضاء الإنسان	OPTO 1302	3
10	علم تشريح الإنسان	PHTH 1302	3
متطلبات الجامعة			
	الأسم	الرقم	عدد الساعات
1	عمل تطوعي/ ٦٠ ساعة	VOLN 1000	0
2	دراسات في الحديث الشريف	HADT 4204	2
3	دراسات في السيرة	HADT 1202	2
4	حاضر العالم الإسلامي	HADT 3206	2
5	دراسات في العقيدة	HADT 2303	3
6	قران كريم (٤)	QURN 4102	1
7	قران كريم (٣)	QURN 3101	1
8	قران كريم (٢)	QURN 2101	1
9	قران كريم (١)	QURN 1101	1
10	دراسات في القران وعلومه	HADT 2201	2
11	اللغة العربية (نحو وصرف)	ARAB 1202	2

Annex (8): Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence

Question	Step 1 (Level 1*)	Step 2 (Level 2*)	Step 3 (Level 3*)	Step 4 (Level 4*)	Step 5 (Level 5)
How common is the problem?	Local and current random sample surveys (or censuses)	Systematic review of surveys that allow matching to local circumstances**	Local non-random sample**	Case-series**	n/a
Is this diagnostic or monitoring test accurate? (Diagnosis)	Systematic review of cross sectional studies with consistently applied reference standard and blinding	Individual cross sectional studies with consistently applied reference standard and blinding	Non-consecutive studies, or studies without consistently applied reference standards**	Case-control studies, or "poor or non-independent reference standard**	Mechanism-based reasoning
What will happen if we do not add a therapy? (Prognosis)	Systematic review of inception cohort studies	Inception cohort studies	Cohort study or control arm of randomized trial*	Case-series or case-control studies, or poor quality prognostic cohort study**	n/a
Does this intervention help? (Treatment Benefits)	Systematic review of randomized trials or *n*-of-1 trials	Randomized trial or observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control studies, or historically controlled studies**	Mechanism-based reasoning
What are the COMMON harms? (Treatment Harms)	Systematic review of randomized trials, systematic review of nested case-control studies, *n*-of-1 trial with the patient you are raising the question about, or observational study with dramatic effect	Individual randomized trial or (exceptionally) observational study with dramatic effect	Non-randomized controlled cohort/follow-up study (post-marketing surveillance) provided there are sufficient numbers to rule out a common harm. (For long-term harms the duration of follow-up must be sufficient.)**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning
What are the RARE harms? (Treatment Harms)	Systematic review of randomized trials or *n*-of-1 trial	Randomized trial or (exceptionally) observational study with dramatic effect			
Is this (early detection) test worthwhile? (Screening)	Systematic review of randomized trials	Randomized trial	Non -randomized controlled cohort/follow-up study**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning

Annex (9): Abstract in Arabic :